

# **"Green Thinking Entrepreneur Youth"**

2019-3-TR01-KA205-080177 Intellectual Output 1

# **Environmental-climate sensitivity analysis report**

Leading partner: Aventura Marão Clube (Portugal)

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Amarante, Portugal 2020



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# A) PROJECT

"Green Thinking Entrepreneur Youth" (THINKING GREEN) is a Strategic Partnership financed by Erasmus+ program from European Union. THINKING GREEN is led by Inovatif ve Girisimci Toplum Dernegi (Turkey) and has partners from Turkey, Romania, Germany, Poland and Portugal. The central objective of this partnership is to transform all youth centers involved into spaces of ecological thinking, which promote the reflection of young people on the current climatic and environmental situation and how we can reverse the trend presented in recent years. In addition, it is expected that all partners promote the active participation of the youth community in terms of "green" and conscious entrepreneurship, developing activities that allow interested parties to improve their skills at this level. It is also intended that awareness campaigns are carried out in order to make society more aware of the environment around us. Throughout this Strategic Partnership activities, as they are foreseen, should produce significant tangible and intangible results and outputs. Among tangible results THINKING GREEN project counts:

- 2 Transnational Project Meetings (TPM);
- 5 Learning Training Teaching Activities (LTTA);
- 5 large scale Multiplier Events (ME);
- Project Website;
- Project Events;
- Green Thinking Centers;
- Online collaboration workspaces;
- Promotional materials;
- Awareness campaigns;
- Videos and short movies;
- 3 Intellectual Outputs (IO).

These 3 Intellectual Outputs are the most significant results expected from THINKING GREEN project:

1. Environmental-climate sensitivity analysis reports: to reflect the current situation and see how much impact our solutions offered by our project has on the issues of environment-climate;

# 2. Handbooks:

- Green entrepreneurial establishing a set of guidelines and green thinking centers on how to deal with green entrepreneurs and employment. The competence of young groups in the fields of environmental-climate awareness, digital skills, interlingual and intercultural teaching, including the Integration Methodology in Youth Education;
- Environment literacy with a set of guidelines on how to deal with the issues of environment-climate-waste, the most effective and lasting solution to eliminate and tackle environmental problems and of course, to raise environmental conscious societies. In terms of using integration methodology in youth education and including diversity how to do diversity;
- **Ethical and aesthetic values in environmental education** to support or strengthen laws designed to help prevent or solve people's environmental problems;
- 3. **Toolbox with web tools and E-learning/E-Book**: with a set of useful tools that can be easily used in the classroom for educational institutions. Online tools, Non-Formal Education methods, video pools, courses to help educators interesting, valuable and simply green entrepreneurship and environmental-literacy courses. We believe that these concrete results produce information about the teaching of green entrepreneurship.





#### **B) ENVIRONMENTAL-CLIMATE SENSITIVITY ANALYSIS REPORT**

# 1. Introduction

Through the situation analysis, we will develop a regional European situation document (regions of partner countries) describing the situation of our project in the EU. Each partner will handle an issue and report it according to the following headings. AMC (Portuguese partner) will collect the situation analysis reports from the other partners and prepare a joint and general document. With this study, we will take an x-ray of environment-climate awareness and sustainability of Europe and our regions. It will ensure that some of the work we already do (before the project) can be further developed using the valuable outputs of the analysis report, so that our project partners will focus on the most relevant and necessary issues. The elements of innovation with this analysis report are not only environmental-climate awareness, but also the areas of employment in the field of green entrepreneurship, the use of green energy, environmental literacy awareness etc...In order to make the analysis reports more efficient and coherent between all partner's involved we should base it in the following research areas/questions:

- 1. Number of existing institutions (business/NGO/public/youth groups/schools) in your region and country?
- 2. Number of institutions (business/NGO/public/youth groups/schools) dealing with environment-climate issue?
- 3. Identify good practice examples (dealing with environment-climate issues) with focus on schools, mainly high and VET schools.
- 4. What number of young people we expect to reach/involve (directly and indirectly) with the project?
- 5. From those young people how many can be given specific training about environmental-climate issues made at your green thinking centers?
- 6. Identify potencial stakeholders that can be our partners in those training about environmental-climate issues made at your green thinking centers?
- **7.** How are environmental-climate competences or the acquisition of environmental-climate awareness regulated in the respective framework curricula of schools and universities?
- 8. Main domains and job opportunities in your region related to environmental-climate issues?
- 9. What incentives, competitions, tenders, rewards are available at regional or supra-regional level to promote environmental awareness, sustainable development and to finance for green entrepreneurs?
- 10.Briefly describe the Green Entrepreneurship culture in your region and list some possible actions to increase it?



# 2. Report

This environmental-climate sensitivity analysis report was produced after gathering all partner's research done at national/regional level. It is a valuable highlight of the current situation in the different partners' countries and will be crucial to move forward in the project's objectives and activities as it compiles recommendations, reflections and many good practices regarding the topic that for sure avoid waste of resources and allow to focus on the still missing points where the project can really be more effective.

1.	Number of existing institutions	(business/NGO/public/youth	groups/schools) in your region and	country?
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Country		Number of existing institutions (total) Number of existing institutions (per capita)						
	Population	Business	NGO	Public	Youth groups	Schools		
Germany	82 887 000	3.500,000 (est.)	620	No data	No data	42,660		
Germany	82.887,000	0,042	< 0,001	No data	No data	< 0,001		
Poland	28 422 600	4.106,708	91,800	No data	No data	13,450		
Polaliu	56.455,000	0,106	0,002	No data	No data	0,00035		
Portugal	10 276 617	1.278,164	139	601	91	8,654		
Fortugar	10.270,017	0,124	< 0,001	< 0,001	< 0,001	0,008		
Pomania	10 522 621	99,475	302	1,722	11	18,403		
Kullallia	19.323,021	0,005	< 0,001	< 0,001	< 0,001	< 0,001		
Turkov	92 154 007	7.500,000 (est.)	83,403	686 (est.)	37,524	125,060		
титкеу	05.154,997	0,090	0,001	< 0,001	< 0,001	0,002		

Region	Number of existing institutions (total) Number of existing institutions (per capita)							
	Population	Business	NGO	Public	Youth groups	Schools		
	· · · ·							
Borlin	2 760 000	350,000 (est.)	No data	No data	No data	900 (est.)		
Deriin	5.769,000	0,093	No data	No data	No data	< 0,001		
Świetokrzyskie	1.240,000	29,394	1,096	No data	No data	314		
SWIĘLOKI ZYSKIE		0,024	0,009	No data	No data	0,003		
Tâmega/Sousa	115 989	40,071	2	24 (est.)	4 (est.)	366		
Tamega/ Sousa	413,989	0,096	< 0,001	< 0,001	< 0,001	0,009		
Arad	417 422	8,000	86	42	2	30		
Aldu	417,422	< 0,019	< 0,001	< 0,001	< 0,001	< 0,001		
Morsin	1 870 000	150 (est.)	2,184	25 (est.)	12	1,261		
14161 3111	1.870,000	< 0,001	< 0,001	< 0,001	< 0,001	< 0,001		

2. Number of institutions (business/NGO/public/youth groups/schools) dealing with environment-climate issue?

Country	Number of existing institutions dealing with environment-climate issues (total)						
country	Business	NGO	Public	Youth groups	Schools		
Germany	No data	No data	No data	No data	No data		
Poland	No data	345	40	No data	13,450		
Portugal	4,897	100	17	9 (est.)	8,654		
Romania	64	223	43	No data	42		
Turkey	1,500 (est.)	2,530	125 (est.)	150 (est.)	2,500 (est.)		

Region	Number of existing institutions dealing with environment-climate issues (total)						
Region	Business	NGO	Public	Youth groups	Schools		
Berlin	No data	No data	No data	No data	No data		
Świętokrzyskie	132	68	8	No data	10		
Tâmega/Sousa	131	2	24 (est.)	1 (est.)	366		
Arad	5	22	1	No data	1		
Mersin	250 (est.)	61	15 (est.)	12	35 (est.)		

3. Identify good practice examples (dealing with environment-climate issues) with focus on schools, mainly high and VET schools.

#### GERMANY

Within the framework of the Decade of Education for Sustainable Development (2005 - 20014) organised by the German UNESCO, almost 3,000 environmental education projects in Germany received awards, while in Berlin the number of projects awarded was 180. This is a comprehensive collection of good practice examples from all areas. This UN Decade generated a great deal of motivation and a spirit of optimism for environmental education in Germany because it involved the most important ministries, trade associations, trade unions and organisations. Participation was considered a prerequisite for successful environmental education. In the long term, the World Action Programme (2015-2019) aims to anchor environmental education and education for sustainable development in the education system. Examples of good practice are role models and have an impact by showing how ESD can successfully move from project to structure. Already during the UN Decade, projects, measures and local authorities were awarded with great success by the German Commission for UNESCO (DUK). The criteria for awarding the prizes were extensively developed further in WAP ESD. Since 2016, the Ministry of Education has been awarding the German UNESCO in the categories "learning locations", "networks" and "municipalities". Their hallmark: a particularly successful implementation and long-term anchoring of ESD. At the Agenda Congress 2016, 65 municipalities, learning locations and networks were honoured. The awardees make an outstanding contribution to the implementation of the United Nations' Agenda 2030 and the WAP ESD in Germany. Among them is the network of sustainable book boxxes developed by INBAK. A summary of these and other projects can be found here:

# https://www.umweltbildung-berlin.de/projekte-wettbewerbe/

The Council for Sustainable Development organises an annual competition, which is integrative and also relates to environmental education:

https://www.tatenfuermorgen.de/fonds-nachhaltigkeitskultur/ideenwettbewerbe/

# Good practice examples:

A) Quality seals and awards for schools: At international level the "Environmental School in Europe - International Sustainability School" is a call for proposals by the European Environmental Education Foundation F.E.E. (Foundation for Environmental Education), represented in Germany by the German Society for Environmental Education (DGU). http://www.umwelterziehung.de/Gegenwärtig more than 30,000 schools in more than 50 countries worldwide are participating; in Germany there were more than 900 schools from 8 federal states last school year. In Berlin, 46 general education schools and 13 vocational schools have the "Berlin Environmental School" award. The schools are honoured for the development of holistic processes and structures of sustainability in their schools.

https://www.bne-portal.de/de/un-dekade-bne-2005-2014-1728.html

B) Berlin Climate Schools: Every year, GASAG (an enterprise delivering energy) and the State of Berlin hold the "Berlin Climate Schools" competition. It promotes projects and activities with which Berlin schools contribute to more climate protection and adaptation to climate change. The competition honors particularly committed



schools for their involvement in climate protection. The categories in which schools can apply include resource protection, adaptation of technical processes at school or the redesign of everyday school life towards greater sustainability. In contrast to the other Länder, it is not whole schools as school communities that apply here, but individual project teams of pupils together with accompanying teachers. https://www.berliner-klimaschulen.de/

- C) Youth competition: A competition for pupils and trainees of the Federal Ministry of Education and Research, which was launched in 2003. Since then, every year several thousand pupils and trainees throughout Germany and at German schools abroad worldwide develop innovative business ideas, draw up business plans and lead their virtual companies to economic success over eight business periods. "In the course of the competition year, participants can gain in-depth insights into economic interrelationships and learn about the importance of initiative and entrepreneurial spirit for their own work. Around the competition, a growing educational platform on the topic of Entrepreneurship Education has been established, which provides more in-depth knowledge about founding, business studies, creativity, innovation and other topics in an age-appropriate way" (Wikipedia). <a href="https://de.wikipedia.org/wiki/Jugend\_gr%C3%BCndet">https://de.wikipedia.org/wiki/Jugend\_gr%C3%BCndet</a>
- D) Federal Environmental Competition: This competition is about dealing with an environmentally relevant topic from the fields of nature, ecology, climate, economy, society, consumption, technology, politics, health or culture; Promotion of environmental knowledge among young people and their independence, creativity and initiative.

https://wettbewerbe.bildung-rp.de/mint/bundesumweltwettbewerb-vom-wissen-zum-nachhaltigenhandeln.html

- E) Youth tests: Jugend testet is a youth competition run by Stiftung Warentest in Germany, in which young people can test goods and services independently. The best tests are awarded prizes by a jury of test experts from Stiftung Warentest and other experts from the media and consumer protection. https://www.jugend-testet.de/
- F) Youth research: "Jugend forscht" is a competition for pupils and young people in the field of natural sciences and technology and is regarded as the best known in Germany. It was initiated in 1965 by the then Stern editorin-chief Henri Nannen. The annual Jugend forscht competition is organised by the Jugend forscht e. foundation. https://www.jugend-forscht.de/teilnahme.html

# PORTUGAL

The climate is an important topic in Portugal, not only for the government but also for the people. Over the years many campaigns were made to promote sustainability and to raise awareness about the climate problems faced nowadays, while taking action to tackle this problem.

# Some concrete examples:

A) Sociedade Ponto Verde (Green Point Society): Was created in 1996 by companies that place packaged products in the market and is a licensed waste-packing management body that promotes the selective collection, takeback and recycling of packaging waste in Portugal. They fund the municipal councils' waste collection and maintenance of recycling drop-off containers, they guarantee the recycling of separated waste, they oversee the routing of packaging to the most appropriate end use, they promote environmental education and awareness-raising for consumers via media campaigns and support for local authorities and they support research programs to foster the market for recycled materials. They also have an academy that promotes recycling in schools through a contest over the school year. This contest involves teachers and students and gives them monthly interactive and creative challenges and the creation of an Action Plan to increase the recycling objective of the school. The focus is on participation, not in the quality of the outcome since what is



important is to have many people participating in it. In the end of the year there is a final quiz to help the students assess the knowledge they have gained during the year.

- B) Equal Food Co.: Is a sustainable project about food with the aim of reducing food waste, mainly in fruit and vegetables that are wasted due to their appearance and producers are forced to throw away because conventional shops do not want them. Since its creation they managed to avoid over 6 tons of fruit and vegetables from going to waste. One of the main interests in this project is to change or to help change consumer behavior since this would have the biggest impact in food waste.
- C) Associação Bandeira Azul da Europa (Europe's Blue Flag): Is part of the Foundation for Environmental Education, FEE, promotes various projects focused on education for sustainable development and management of environmental good practices. Under this association there is the project "Eco-Escolas" that was established in Portugal in 1996. It awards a green flag to schools that follow a 7-step methodology consisting in: 1. Eco-Schools Council; 2. Environmental Audit; 3. Action Plan; 4. The Human Body; 5. Monitoring and Evaluation; 6. Community Involvement; 7. Eco-Code. They should also implement at least 2/3 of their action plan and carry out activities under the basic themes (water, waste and energy) and at least one of the themes of the year. This project has already given the green flag to over 1600 schools in the country, with 198 of them in Porto region. In Amarante there are 2 schools that have received and are maintaining the green flag for Eco Schools at the moment, one of them is a high school. Another project they promote is the Young Reporters for the Environment (Jovens Repórteres para o Ambiente JRA) and it contributes for the practice of active and participative citizenship, focusing on environmental journalism. The youngsters investigate and interpret environmental and/or sustainable questions relevant on a local level as if they were journalist and thus reinforcing their knowledge on environmental domain. This project is applied to school groups, from 11 to 21 years old, as well as free-lancers, from 15 to 21. Portugal was a pioneer in this project that has expanded to over 35 countries.
- D) Concelho Municipal de Torres Vedras (Municipal Council of Torres Vedras): Has been developing, since 2014, the School Food Sustainability Program (PSAE), which applies to all pre-school and 1st cycle of basic education. This program is based on social, economic, environmental and nutritional sustainability, promoting the quality of the meals served to each child, reflecting on their health and well-being, as well as the collaborative work between the Municipality and the associative fabric, enhancing the rationalization of resources and the local economy.
- E) Energia de Portugal (EDP): One of the Portuguese energy companies, promotes various projects for sustainable energy in schools. The main project is called Schools with Energy and its objective is to support schools in their management component and develop new skills and behaviors among young people. This involves 3 other projects, the most relevant one is Optimizing with Energy, a program for educational institutions that applies business management skills to promote saving and reducing waste.
- F) Project ClimACT: Is drawn up under the priority axis "Low Carbon Economy" from Interreg SUDOE program and aims to support the transition to a low carbon economy in schools and has four main lines of action: develop decision support tools, generate new business models, create educational tools and establish a thematic network. It is a partnership between Portugal, Spain, France and Gibraltar that was implemented in a total of 39 schools and institutes, 9 of them in Portugal and it includes primary, high schools and universities.
- G) Equação, Cooperativa de Comércio Justo (Fair Trade cooperative): Is promoting organic, local and fair trade principles and products at schools by organising awareness sessions since 2007. Till the moment has already



developed more than 500 sessions, mainly in the North of Portugal and reached around 40,000 students, mainly from VET and High schools.

#### POLAND

Climate protection is also an important issue for Poland. Many people, institutions and organizations rise on challenges so that ecological awareness acompy people on daily basis. Taking care of the immediate environment should become a habit, for example through such simple activities as waste segregation, saving electricity (turning off unnecessary lighting, purchasing energy-saving light bulbs and household appliances, not leaving radio and TV sets on standby), saving water consumption in households, returning used batteries or electronic waste to dedicated collection points.

At present, more and more initiatives related to environmental and climate issues appear in the Świętokrzyskie. Already in early education, environmental education becomes more and more important, and thanks to it both children and adults become conscious users of the natural environment.

Children learn about ecology from kindergarten. At school, during various educational activities, students learn about environmental protection, climate change, saving energy, water, raw materials, segregating and recycling waste. They develop their pro-ecological competences. Emphasizing the importance of the topic of environmental education, the ministry introduced a regulation that obliges teachers to discuss the most important climate and environmental protection issues with students from September 1, 2020 during classes with the teacher.

During compulsory classes on various subjects, all students learn about environmental education. From kindergarten, they have instilled respect for the natural environment. They learn that caring for the environment is everyone's responsibility. It largely depends on our daily habits and the way we run a household.

At school, children strenght appropriate habits, learning how to save energy, water, raw materials, segregate and reuse waste, as well as ecological handling of technical products. They learn about climate change by getting to know the complexity nature. Those topics are present on various school subjects: sceince, geography, chemistry, physics and biology.<sup>1</sup>

# Some concrete examples:

- A) Youth Ecological Council: It is a nationwide social and educational initiative operating under the patronage of the Minister of the Environment, aimed at improving the condition of the natural environment by promoting the idea of sustainable development and increasing environmental awareness of the society. The competences of the Youth Ecological Council at the Ministry of the Environment include expressing opinions on matters covered by government administration departments regarding the environment, and in particular presenting opinions on planned changes in national policies, strategies and legislative changes within the Ministry of the Environment competences. The aim of the project is to create a space for children and young people who want to engage in activities for environmental protection. Project was announced in September this year. This project will encourage young people to involve in pro-ecological activities, which will allow them to build a greater sense of responsibility for the surrounding environment. Thanks to cooperation with experts and institutions, they will gain expert knowledge and learn about the work of people actively involved in nature conservation. The project will educate youth ecology leaders, prepare them to be local leaders in order to build environmental awareness of their peers. The creation of the Council will allow the Ministry to get to know the views and ideas of young people presenting their own point of view. It should be added that the Council will not only have an advisory role, but will also have its own budget for granting youth grants for pro-ecological projects and activities.<sup>2</sup>
- B) **Geopark Kielce**: Companies from Świętokrzyskie region are organizing more and more projects and initiatives aimed at pro-ecological activities both at the company and school level. A good example is Geopark Kielce -

<sup>&</sup>lt;sup>2</sup> Source: <u>https://mre.srodowisko.gov.pl/</u>



<sup>&</sup>lt;sup>1</sup> Source: <u>www.kielce.uw.gov.pl</u>

Geoeducation Center, which in 2016 has signed 6 grant agreements in the field of environmental education, funded from the Provincial Fund for Environmental Protection and Water Management in Kielce.

- C) Geo-Świętokrzyskie Educational Workshops: Is dedicated to people involved in environmental education of children and young people: teachers of science from Świętokrzyskie region, educators, representatives of nonformal education organizations and institutions. The workshop program included issues related to the values of the geological heritage of the Świętokrzyskie Mountains and its sustainable use in the field of tourism and geoecological education.
- D) Geo-Geniusz Knowledge Competition about the Earth: Organizing and conducting a knowledge competition on the geological values of the Świętokrzyskie region. Competition was dedicated to students from secondary schools in the Kielce poviat. The subject of the competition included knowledge of geology, geography and ecology of the Świętokrzyskie region. The competition, which has permanently entered the calendar of educational competitions in the Świętokrzyskie Voivodeship, is an excellent tool to promote the values of inanimate nature in the region, which make the region unique compared to other regions in Poland. Participants learn about the local geological heritage, and thus supplement the content of the core curriculum with information that goes beyond the basic scope.
- E) Educational program for the Geology Enthusiasts Club: Field trips and stationary (practical) classes. Their main goal was to enrich the club's educational offer by exploring geosites of the Świętokrzyskie region. As part of the task, for the Geology Enthusiasts Club 2 field trips were organised, in the Świętokrzyski National Park and its surroundings, under the supervision of professional guides. The field trips resulted in geological specimens (rocks / fossils / Świętokrzyskie minerals). These specimens will be successively used during the practical workshops of the Geology Enthusiasts Club, incl. rock processing classes.
- F) Educational competition Geostanowiska in your neighborhood: Competition was dedicated to primary and secondary school students from the Świętokrzyskie region and their guardians. The participants of the competition prepared posters presenting the geological wealth of their area as well as generally interesting natural places. The submitted competition works were assessed by the jury for their artistic and substantive value. The Competition Committee selected the best works to be presented at the exhibition at the Geoeducation Center. As part of the Competition, a summary meeting was organized at the Geoeducation Center, during which the authors of the competition were awarded with gifts.
- G) **Publication of ABC ... Świętokrzyskie geology**: Development, printing and distribution of a didactic publication on the geological heritage of Kielce, addressed to teachers and educators. The publication is a guide containing a synthetic description of selected Kielce geological sites along with photographic documentation, enriched with practical tips on their use on school lessons and extracurricular activities at various levels of education.
- H) Educational project of the Society for Research and Protection of Nature: Three educational projects cofinanced by the City of Kielce involving about 730 preschoolers and primary school students who participated in field activities and lectures. The aim of the "Forest class" project was to conduct cyclical field trips, during which children learned the ability to observe natural phenomena occurring in the forest with the changing seasons and to encourage them to spend their free time in the bosom of nature.
- Complex of Świętokrzyskie and Nadnidziańskie Landscape Parks in Kielce: Organising educational activities, projects and lectures at all levels of education. Their goal is:
  - Dissemination of knowledge about the need to preserve and rationally use natural resources;



- Getting to know the role and function of specially protected areas;
- Getting to know the natural, cultural, historical and landscape values of the immediate vicinity and the region;
- Shaping proper human attitudes towards nature.

# Good examples in companies:

On the 18<sup>th</sup> edition of the largest CSR activities review in Poland higest records were noted. Compared to the previous year, about 10% more companies and good practices were applied (1,696 practices reported by 214 companies). Practices related to the care for the environment turned out to be the most dynamically developing area (an increase of over 35% compared to the previous edition of the report). Every third reported practice concerned social involvement and development of the local community (564 new and long-term practices in this area). The industries most represented in the report are: finance, services and trade.

Vive Textile Recycling is an example of corporate social responsibility. The Responsible Business Forum has published a report as part of the series "15 Polish examples of corporate social responsibility". VIVE Textile Recycling with its Textile Upcycling trend was among the awarded practices. Textile Upcycling is a form of textile waste recycling that produces products with a value higher than the processed raw materials. This process reduces both the amount of waste and the amount of materials used in primary production.

The trend leader is VIVE Group, for which an important element of the long-term strategy is to strive for further development of business potential while reducing costs and adapting to the changing environment, which is becoming more and more sensitive to the environmental and social impact of the largest business players. The main goals of the organization's strategy are: recycling, including innovative research and development programs, reduction of carbon dioxide emissions, proper waste management, reduction of paper and electricity consumption, and safety in the workplace. Publication motto: 'on the way to a circular economy for Poland', with which the entire VIVE Group identifies itself. The Textile Upcycling trend presented in the report is a form of textile waste recycling, resulting in products with a value higher than the processed raw materials. This process reduces both the amount of waste and the amount of materials used in primary production. The Responsible Business Forum report is a response to the increasingly popular trend of combining the achievement of environmental and business goals by abandoning the linear model in favor of the circular economy. Each subsequent edition of the publication is addressed primarily to the academic community, but is also an inspiration for business.

Innovation and eco-friendliness are gaining more and more popularity, which is the market's response to the changing needs of society and business. It is similar with the leading product of VIVE Innovation - part of the VIVE Group - the ecological textile composite VIVE Texcellence, from which utility products can be seen from many places. More than 20 benches made of this innovative material have been installed near the Kielce Cultural Center. VIVE Texcellence composite is made of textile waste and plastic packaging waste. This product solves the problem of recycling post-consumer textile waste. The product has a wide range of applications - from structural, small architecture, lighting poles to details such as hangers, stands, boards, structural elements and various types of fittings, ideal for the needs of the construction and engineering, architectural and garden furniture industries. Arrangements with the use of composite can be seen in countries such as Germany and Denmark. VIVE Texcellence combines the best properties of plastics and wood. Additionally: it is easy to process and can be further processed; has a very high mechanical strength and at the same time high elasticity (much stronger than comparable plastics); it is resistant to weather conditions and biological factors (moisture, low temperatures, fungi and molds, does not absorb water); does not require maintenance; it is friendly to the touch, free from splinters and resin; muffles sound very well due to high density and fiber content; despite so many advantages and innovation, its price is comparable to wood and WPC (combination of wood and plastic). Moreover, a modern composite supports the natural environment in a real way, because: 95% of its composition consists of secondary raw materials - clothing and used packaging; the product is 100% recyclable (including the production of alternative fuel); its production leaves a minimal trace of CO2; contributes to the reduction of the amount of waste in landfills and the reduction of



deforestation; the production of the composite enables the recovery of a significant amount of energy used to produce the raw materials from which the product is manufactured.

The VIVE Innovation company, part of the VIVE Group, engaged in the search for innovative technologies enabling 100% recycling of textiles, created the innovative RETEXTIL material. It is perfect as a building material for a modern garden with a unique design. Retextil textile composite, which is a modern substitute for wood, is created, among others, from recycled used clothing (95% of its composition is recycled material). Its main advantages are durability, elasticity and resistance to weather conditions and biological activities. The material does not require maintenance, is impact-resistant and allows for full carpentry processing. All the properties of the RETEXTIL composite enable it to be used outdoors, wherever natural wood is used.

The company VIVE Textile Recycling Sp. z o. o. also organizes a number of events, such as the Ecological Congress for Preschoolers and the accompanying Conference: 'The effects of environmental degradation and ways to counteract it', not only aimed at drawing attention to all activities for environmental protection from an early age , but also emphasising the need for dialogue of various environments: scientific, local government and business, as well as a common strategy and involvement of local communities in global problems. For many years, VIVE Group has been carrying out CSR activities raising awareness of the society about responsible consumption and production, as well as promoting educational initiatives in the field of ecology, recycling and entrepreneurship among children and young people. In the latest report "Responsible Business in Poland 2019. Good Practices", VIVE Group was awarded for supporting the mini-company "Animalki", founded by students of the Juliusz Słowacki in Kielce. Thanks to the help offered by the company, as well as enormous commitment, young people not only develop their passions, creativity and enhance character traits, but also help to fight animal homelessness.<sup>3</sup>

# Other relevant examples:

- Kielce Technology Park Energy Science Center (ECN): The aim of the Center is to popularize science through fun and experimenting. Interactive stands and devices built at the exhibition are original concepts, designed and constructed especially for the ECN. The exhibition is unusual and very universal. In ECN, learning is intertwined with fun. Visitors learn what energy is, how it is used, and learn about its renewable and non-renewable sources. By experimenting and conducting experiments, visitors are encouraged to engage in exploring and understanding the world, as well as deepening their knowledge. The offer of the center dedicated maily to schools, including secondary and vocational schools. The KTP Energy Science Center organizes numerous ecological initiatives. One of them are ecological competitions for schools, co-financed by the Provincial Fund for Environmental Protection and Water Management in Kielce.
- World Tree Day in the Świętokrzyskie region: Actions are held during which trees are planted. Kindergartens, schools, students, institutions and companies join the campaign. In Poland, the Day of the Tree has been held since 2002 on October 10<sup>th</sup>.
- National Clean Up the World campaign: Schoolchildren are involved in collecting rubbish. During the march, young people often exchange disposable bags for ecological ones.
- World Earth Day celebration: The slogan of the holiday in 2020 is "Actions for climate protection", and the main goal related to the celebration of this day was to promote pro-ecological attitudes in the society.
- Świętokrzyskie Centrum Innowacji i Transferu Technologii Sp. z o.o. Świętokrzysko-Podkarpacki Energy Cluster': The aim of the project was to build a platform for supra-regional cooperation in the field of broadly understood energy conservation, including promotion, implementation and dissemination at the local, regional

<sup>&</sup>lt;sup>3</sup> Source: <u>https://www.vivetextilerecycling.pl/</u>



and supra-regional level of the objectives of the new energy policy of the European Union, in particular efficient energy use. The cluster comprised business environment institutions, research units, enterprises and local government units.

#### TURKEY

- A) Young Volunteers: The General Directorate of Education, Culture and Research of the Ministry of Youth and Sports conducts a program named "Young Volunteers" where young people can work on a voluntary basis in the categories of education, environment, sports, culture and tourism, health and social services, and disaster and emergency. This program enables young people to integrate with certain voluntary organizations through the Young Volunteers website and to carry out their activities in this way, instead of performing their volunteering activities alone. The main purpose of the program is to increase the participation of young volunteers in nongovernmental organizations and to ensure that these young people engage in activities that support their success. A total of 8 thousand and 47 people have applied to volunteer for the program, of which target audience is 14 years and above, and 692 postings of 483 institutions have been posted on the website. It aims to publish volunteering opportunities in different geographies of the world as well as domestic volunteering activities so that volunteers serve not only where they live, but also the whole world. Young Volunteers Site offers different alternatives to prospective teachers (candidates of teachers) for the THU (Community Service Practices) course, which is taught as a compulsory course in Education Faculties of Universities. Students of the Faculty of Education can apply to the volunteering announcements published on the site with the phrase "Included in the THU(Community Service Practices) Course", with the approval of their advisors by realizing the implementation phase of the course (Anonymous, 2017-1).
- B) Young TEMA: The TEMA foundation founded by Toprak Dede Hayrettin karaca and Yaprak Dede A. Nihat Gökyiğit in 1992 consisting of university students is a voluntary organization. Young TEMA conducts voluntary studies to ensure that young people are sensitive to the problems of the environment they live in and take an active role in solving the problems, and aims to contribute to their being individuals with an ecological perspective. Young TEMA is formed as a club or student community in universities. Volunteer students who want to participate in the studies come together and establish a club or student community in line with the Young TEMA directive, with the support of an advisor and lecturer. ith the approval and support of the university administration, the established student community continues its activities in coordination with TEMA Foundation Center, especially with the TEMA Representation Office in the city where the university is affiliated. Young TEMA University continues its activities in 107 universities as of 2015. Young TEMA members carry out stand / promotional activities to promote and ensure their participation to other students, organize seminars and panels within the scope of informative studies, organize sapling planting activities, and support the activities of TEMA Representatives / District Responsibilities. Young Tema members take part in social activities such as spreading TEMA Foundation campaigns, organizing events on special days related to the environment, organizing nature trips, and they carry out teamwork in coordination. (Ano-nim, 2017-2).
- C) Turkey's Nature Protection Association: Founded in 1955 by forty members Turkey's Nature Protection Association, has been collaborating with the "International Union for Conservation of Nature" IUCN since 1963. This association; operates activities about all natural resources of the country, especially steppe and mountain ecosystems, forests, agricultural lands, soil and water resources, meadows and pastures, seas, lakes, rivers, wetlands, caves, and the ecological processes and cycles they contain, conservation and use of logical diversity for sustainable development within ecosystem integrity; To raise the awareness of the society on the issues of the city, environment and quality, to organize activities such as education, panel, seminar etc. to protect the urban nature and to organize trips; raising awareness and training of the disabled, children and young people, women, peasants and farmers, rural residents, industrialists, tourism professionals and sportsmen on

environmental and cultural values; execution of extension, vocational courses, continuing education centers and R&D services, entrepreneurship and employment activities in related subjects; environmentally friendly agricultural practices, plant breeding studies, environmental labels and activities for rural development; carrying out projects and activities to prevent violence against humans, animals and the environment; operates in order to prevent all kinds of environmental pollution affecting the living environments of our country. The youth commission of the association was established to ensure that young people aged 18-25 participate voluntarily activities in nature conservation and prevention of environmental pollution. Young people who want to contribute to the work of the youth commission contact with the association by filling the electronic form on the site (Anonymous, 2017-3).

- D) Youth Tourism Association (GENÇTUR): Is an association after the adoption of the possibilities offered through the European Commision Youth Program "program countries" in order to provide Turkish Youth January 7, 2002, servicing in the field of youth tourism since 1979 while both sending Turkish volunteers to international Voluntary Work Camps and also bringing foreing volunteers to Turkiye by organizing similiar camps in the scope of Turkiye GENÇTURK under the European Commision Youth Program. GENÇTUR is a social enterprise whose aim is to develop opportunities for young people to participate in all kinds of activities that will support their individual, social and cultural development under the most appropriate conditions and to ensure that they reach the existing opportunities in the fastest way possible. GENÇTUR, by way of the organizations with its membership, it cooperates with 163 organizations in 85 countries and offers all kinds of opportunities for young people to expand their perspective on the World. Between the years 1989 and 1998, it served as ALLIAN-CE Vice Chairman for 3 terms. More than 1500 International Volunteer Labor Camps, Children and Teenager (Çocuk ve Yenigenc) Camp and My Dreams Come True project were realized and more than 15,400 Turkish and foreign volunteers, 10-17 children and new young people were participated in these projects' activities. Physical, cultural and social activities are carried out in the international camps. There are also activities such as school paint and whitewash, environmental cleaning, tree planting, tree care, park and garden construction, beach cleaning, school surrounding wall construction, water canal excavation, school garden arrangement, sports field arrangement, paving stone on roads, picnic areas environmental organization. (Anonymous, 2017-4).
- E) Erasmus+ Youth Program: The Erasmus+ Program, which was put into practice between 2014 and 2020, is a new program that combines many programs, opportunities and networks, especially the Lifelong Learning and Youth Programs, which were previously implemented by the European Union in the fields of education and youth. There are European opportunities for citizens of all ages and sectors in the Erasmus+ world. In Erasmus+ Youth activities, one of these programs, young people, those working in the youth field and all citizens who want to be involved in the projects for young people can benefit. Erasmus+ Youth, non-governmental organizations, public institutions, active profit-making organizations in the field of social responsibility and sports-related organizations, while providing the necessary support for international cooperation in the field of education and youth, at the same time to offer individual or community opportunities to young people. Young people can participate in educational activities at home and abroad or do European Voluntary Service. They can participate in projects prepared by other groups and organizations as a participant. on the condition that establishing a group of at least 4 people, it provides project support to young people who are not members of any organization but want to prepare their own projects. One of the subgroups of these projects, European Voluntary Service, is an activity that enables young people to take part in a social project in an EU country of their choice within 2-12 months. European Voluntary Service, which also includes basic language training (5%), is open to all young people aged between 17-30. The aim of the European Voluntary Service (EVS) is to support the participation of young people in various forms of volunteer activities inside and outside the European Union. Under this Action, young people take part in non-profit, unpaid activities individually or in groups. Volunteers' eating, drinking,



accommodation, visa, insurance etc. expenses and pocket money are covered by the National Agency (Anonymous, 2017-5).

- F) Wildlife Conservation Association (WWF): Founded in 1975, Wildlife Conservation Society, WWF Turkiye is in the fight for the nature conservation organizations in Turkiye and one of the pioneers in the professionalization of civil society organizations. WWF Turkey which is global, politically independent, multicultural and neutral, constitudes a tangible nature protection solutions leveraging benefitting combination of trainings and with the field projects, policy initiatives, capacity building. It involves local people and communities in the planning and execution of field programs, taking into account their cultural and economic needs, and establishes partnerships with other organizations, governments, business and local communities. Using the financial resources obtained from its supporters, it carries out its projects efficiently and at low cost. Although WWF - Turkiye is not a separate platform designed for volunteer young people, young people constitute a majority of its volunteer members. The association aims to change the consumption habits and worldview of young people working on a voluntary basis with the view of nature conservation and in nature conservation activities, young people are assigned in different ways according to their interests and expertise opening stands at the university spring festival they study, to guide for introducing to the other people in their environment for WWF, to come together according to set time by WWF-Turkiye are among these tasks. (Anonymous, 2017-6).
- G) Nature Association (Doğa Derneği): Founded in 2002, and one of the first organizations to recognize" Mother Nature's Rights Universal Declaration in Turkiye", carries on many activities for making live "Key Biodiversity Areas" in Turkiye and in the the world. With partners one hundred and twenty countries, Nature Association, being Turkiye partner of the largest nature conservation network World Bird Protection Agency (Birdlife International) in the world, has undertaken many projects both locally and also an international scale. Nature Association (Doğa Derneği), which has been working both in Anatolia and in different parts of the world since its establishment, continues its activities with hundreds of volunteers today. The basic value that brings volunteers together is that human being is nature too, that is the thought of "Nature is me. Nature is you. Nature is we ". The association carries works to understand, explain and keep these relationships alive with the motto of "relationships based on good deeds For this reason, the base of the association consists of a wide network ranging from students to villagers, from researchers to artists, from travelers to birdwatchers and activists. For conveying the knowledge, experience and valuable knowledge gained from the studies and researches they have done in Anatolia and all over the world among next generations, the association pioneered the establishment of Seferihisar Nature School. Every year, Nature Association (Doğa Derneği) organizes courses/activities in different categories generally appealing to young people and announces these activities under the title of "Nature School" on its own page. (Anonymous, 2017-7).
- H) Nest (YUVA): Was founded in 2010 by Erdem Vardar, who has been advocating for nature and human rights in Europe, Asia and in Turkiye for a long time, and Özge Sönmez, a non-formal educator working with young people, to change the world, to make it better, to make a fairer and more sustainable place and in order to ensure remaining a home for all living things. The association carries out education and advocacy activities in order to promote a life style in harmony with nature and to protect the rights of nature. The association works to support the development of adults and young people through out-of-school education and lifelong learning, to increase their ecological awareness and to contribute to the eradication of poverty. All trainings are participant-oriented and voluntary (Anonymous, 2017-8).
- Wildlife Conservation Foundation (WCF): Founded in 2011, this foundation for the Conservation of Natural Life carries out works for the sustainable use and management of natural resources, giving priority areas a protection status, and ensuring that the eco-systems of natural habitats being handed on to future generations. Foundation

for the Conservation of Natural Life for this purpose; conducts conservation projects; It carries out activities for the implementation and development of the relevant laws; It cooperates with the public, local or central organizations, and legal real persons and managers. The Wildlife Conservation Foundation, in addition to the other activities it carries out, by organising under the roof of nature camps, aims to bring young people together, to raise awareness on environmental problems in a different way, by staying alone with nature, and to contribute to their being nature-friendly in a capacity by defending the nature against these existing threats Primarily targeted the participation of young people between the ages of 18 and 27 living in disadvantaged regions due to wrong environmental policies throughout the country to the nature camps and also it is also among its targets to enable the youth stuck in the complexity of cities to meet with nature. In the camps, by organizing workshops on topics such as sustainable development and environmental policies, and clean energy, youth are informed about what they can do against these threats they face in their daily lives (Anonymous, 2017-9).

- J) Global Environment Association (GEO): Became operational in 2012 in order to achieve the targets, since 2005 working together in Turkiye and Europe, in different countries all work done by volunteers of nature in order to increase its impact these executings in an organizational way for reaching out to new volunteers primarily determined in Turkiye and then globally. The aim of GEO is to raise awareness on issues such as environmental pollution, inefficient use of water resources, deforestation, climate change, soil erosion and food shortage, to carry out education and awareness studies, to develop scientific-based and supported research and conservation projects, and to carry out studies by developing international collaborations. The association, through the workshops, prepared for young people in national and international education projects, applied trainings, presentations, games, field studies, providing participants with a participatory approach to the environmental problems and environmental rights, awareness of their rights and reflect them on daily practices and decision-making processes, conducts studies. (Anonymous, 2017-10).
- K) Environmental Protection and Research Foundation (ÇEVKOR): Is a foundation founded in 1991 by faculty members at Ege and Do-kuz Eylül universities. The purpose of the foundation is to protect, develop and maintain natural, historical and cultural assets, to encourage and develop systems that will not cause environmental pollution, to increase environmental awareness in all segments of the society and to conduct educational activities on this subject. Activities of ÇEVKOR include Ecology Summer Schools, Environmental Education Books, National and International Symposiums and Congresses, Cleaning, End of Tree Cutting, One Bird's Nest on Each Balcony, Afforestation Studies, Young Ecologists Education Program, Environmental Research Projects, Environmental Slogans. Organizing various competitions on subjects such as Environmentalist Literary Works (Anonymous, 2017-11).
- L) Clean Sea Association (TURMEPA): Is a civil society movement started under the founder chairman of Rahmi M.Koç in order to protect our country's coastal and marine to become a national priority and for transferring a livable Turkiye surrounding clean seas for future generations on 8 April 1994. TURMEPA, which had 29 members when it was founded, today, is a non-governmental organization with nearly 1000 members, 350 of them are corporate. In TURMEPA, volunteers were gathered under 4 different categories. "Online Volunteer": Any individual from any age group, living at home, with special needs, with a very busy schedule, student, retired, can be a participant. Social media channels are active with short films and photos. After online or face-to-face orientations within the time periods determined by the center, on their personal social media accounts, "What is Happening in Our World?" Participatory advocacy and advocacy of the Law of the Sea Participant advocacy they are individuals who perform national and international arena. They also collaborate across borders in writing, editing and translating, consulting, research, project development and management. "Education Volunteer": Those who are between the ages of 20-50, who have a volunteer or professional education

background, who support the teachers-children and adults of the trainings included in the TURMEPA Volunteering procedure as a volunteer trainer, and after receiving the necessary training of trainers, are individuals who are active in target provinces. "Activity Volunteer": Individuals from all age groups. They take part in important day events organized by the association as facilitators, organizers and participants in national and international arena and in all tasks parallel to the content of the event. They provide support in matters related to communication activities and designs (stand set-up, relations with local media, etc.). Community Volunteering: It is a group of volunteers formed by organizations in universities, public and private sectors and consisting of at least 5 people whose goals and objectives are determined in the national arena. They are described as Marine Ambassadors. They carry out their activities in line with the Community Guidelines (Anonymous, 2017-12).

- M) Turkiye Environmental Education Foundation (TÜRÇEV): The program, whose international name is "Young Reporters for the Environment, YRE" and named as the Young Spokesmen of the Environment, named as ÇGS in our country, was first implemented in France in 1991 and moved to the international level in 1994 by the European Environmental Education Foundation (FEE). Our country joined the program in 1995. While TÜRÇEV started the Blue Flag Program following its establishment, again under the umbrella of FEE; In 1995, Eco-Schools, in 1996 Young Spokespersons of the Environment and in 2004, Forestry Programs in Schools started to be implemented in our country. In 2011, the International Green Key Award Program was launched in our country. The "Young Spokesperson of the Environment" program is an international program that encourages young people to understand environmental problems and issues and provides environmental education in order to raise their awareness. For this purpose, a school network has been established with the participation of schools from 34 countries and news about the environment. As an educational tool, the method of environmental journalism, which attracts the attention of young people, has been adopted, and students are encouraged to research and examine environmental problems and issues in their school area, to produce news articles, photographs and short videos. So, it is aimed to raise young people as environmentally sensitive citizens by providing an environment where they can make their voices heard on conveying environmental injustices, while creating public opinion in order to ensure that environmental problems are corrected by the authorities, and experincing the the sense of they can change things. 750,000 students aged between 11 and 21 in 35 countries since 1996; by doing environmental journalism, they researched and examined environmental problems and issues, and published their findings and solutions by publishing news articles, photographs and video reporting. The main purpose of this program is to raise public opinion in order to express environmental injustices and to ensure that they are corrected by the authorities, and to raise young people as environmentally sensitive citizens by giving them the feeling that they can change some things (Anonymous, 2017-13).
- N) Turkiye Environment Protection and Greening Institution (TÜRÇEK): Was established in İstanbul in 1972 as one of the first of Turkiye's voluntary environmental organizations. TÜRÇEK has a corporate structure body with five thousand members and active volunteers, as well as twenty employees, who can influence national and international nature conservation and environmental policies with scientific, economic and social-based approaches playing an active and unifying role in national and international nature conservation organizations. The aim of TÜRÇEK is to influence the nature and environmental protection policies with an approach that takes human beings into consideration, to be a unifying and empowering organization for regional, local and national nature conservation organizations, to give importance to education, based on an institutional structure and memory based on active volunteers to be a recognized, reliable nature and environmental protection institution. "Acacia Summits" were traditionally held in Sabanci University Tuzla Campus in April every year, starting in 2002 in cooperation with TÜRÇEK and Sabanci University Social Awareness Projects. Until 2008, the project reached 1,396 environmentalist young people. During the 3-day Acacia Summits, Sessions on environmental issues and subjects, mini fairs and promotional sessions, entertainments and workshops were organized, where NGOs and

University clubs introduced themselves. Acacia Summits have dealt with many different issues related to environmental problems so far and lasted until 2008. The main purpose of the Acacia Summits was to bring together the young people working on environmental studies through non-governmental organizations, University Clubs or individual initiatives on democratic platforms and to ensure that young environmentalists have a say in environmental policies. "Youth in Turkiye" which is written on the frame of the 2007 National Human Development Report, UNDP selected and awarded Acacia Youth Environment Summits project for the first time as one of the best youth projects that encourage youth to increase their capabilities. In 2014, by focusing on global developing problems, TÜRÇEK re-establishes its institutional structure and its Works. It continues its intensive efforts to restart the Acacia Summits, which will increase the interest and participation of the university youth (Anonymous, 2017-14).

- O) The Ministry of Environment and Urbanization: Is the only authorized public institution for the protection and improvement of the environment, determination of policies for the prevention of environmental pollution and for the necessary actions. The duties and powers of the Ministry of Environment and Urbanization are determined in Article 97 of Presidential Decree No. 1. According to this; Ministry of Environment and Urbanization "To carry out the necessary studies, to develop standards and criteria, to prepare programs in order to determine the principles and policies for the protection and improvement of the environment and the prevention of environmental pollution; In this context, training, research, project design, action plans and pollution maps to formulate, to determine and monitor their implementation principles, to carry out business and operations related to climate change, to evaluate the environmental impacts of every kind of plants and activities to that create or are likely to cause pollution by leaving solid, liquid and gaseous waste to receiving environments; It is responsible for monitoring, permitting, inspecting and controlling the mentioned facilities and activities and also responsible for controlling the noise. These duties are carried out by the Provincial Directorate of Environment and Urbanization in Ankara.
- P) Eco-Schools Program: Is a program applied in preschool, primary and secondary schools to provide environmental awareness, environmental management and sustainable development education. With a participatory approach, students at schools both learn about environmental issues and take an active role in raising awareness of their families, local administrations and non-governmental organizations (NGOs) on environmental issues. The program also ensures the implementation of an environmental management system based on ISO 14001 / EMAS in schools. To help implement the sustainable development process at the local level, students are guided to take an active role in 7 steps implemented to reduce the environmental impact of the school. Therefore, eco-schools go beyond teaching in the classroom and play a role in ensuring environmental awareness in other parts of the society.

The program includes a holistic school activity for the environment, and its success in the schools where it is implemented depends on the interest of the school administration and teachers, especially the school principal. The most important and integrating factor in the Eco-Schools program is student participation. The efforts of the committee to raise awareness of local people and administrators provide students with the ability to establish dialogue and a good citizenship education.

Eco-Schools Program, besides offering a guiding program to schools on environmental education; It is also an award plan, as giving the Green Flag awards to the schools that have achieved outstanding success with their work and environmental education within the program. The Green Flag is an eco-label that symbolizes the internationally recognized and respected, environmentally conscious school. The validity period of the award is 2 years, so the award must be renewed every two years. Eco-Schools is a long-term program. Information about the Green Flag award application is also provided.

4. What number of young people we expect to reach/involve (directly and indirectly) with the project?

Turne of involvement	Young People expected to be involved by Partner's Countries					
Type of involvement	Germany	Poland	Portugal	Romania	Turkey	Total
Directly involved	150	150	200	60	300	860
Indirectly involved	5,000	1,500	20,000	30	50,000	76,530

# 5. From those young people how many can be given specific training about environmental-climate issues made at your green thinking centers?

Turno of training	Young	g People expected	d to be given spec	be given specific training by Partner's Countries				
Type of training	Germany	Poland	Portugal	Romania	Turkey	Total		
Presencial	100	65	100	100	120	485		
Online	50	250	200	50	1,000	1,550		

6. Identify potencial stakeholders that can be our partners in those training about environmental-climate issues made at your green thinking centers?

#### PORTUGAL

There are some stakeholders that can be potential partners in trainings about environmental-climate awareness, namely:

- 1. Officina Noctua: Is a local company that works with handmade silkscreen, design, illustration, rebuilding of antics and bird observation. They give workshops on how to make handmade silkscreen, organize second hand markets and repair old furniture back to their original glory, always trying to reuse as much as possible and minimizing their waste. Most recently they have been developing a project of bird watching in the surrounding area and organize walks on the mountains for this activity.
- 2. Equação, Cooperativa de Comércio Justo, Crl: Is a regional cooperative that focus on fair trade and local and biological products. They were the pioneers of fair-trade in Portugal, opening the first ever fair-trade shop in the country. Nowadays they still promote the sale of fair-trade products and support local farmers with volunteering and workcamps as well as by doing a bio-fair every Saturday to sell the products of the bio-farmers of the region. They also do fair-trade workshops in schools all over the country to teach the youngsters about the values and principles of it.
- 3. **Revolução das Minhocas**: Is a individual company at local level that works on the agricultural and waste field, using an innovative way to use waste and worms in order to create a powerful fertilizer. With the use of specific worms and creating a special environment for them, it is possible to reuse all the organic waste produced by someone in order to create a fertilizer without having any bad smells from the trash and with little to none maintenance.
- 4. **Fernando Paiva, Unipessoal**: Is a local farmer, the first biodynamic wine producer in the country. He is a retired history teacher that decided to use his family land in order to produce wine in the most natural way, with as less chemicals as possible, using a biodynamic way and following the moon calendar.
- 5. Associação Gatilho: Is a local social-cultural organization that promotes art in Amarante. They have an arts academy, mainly focused on kids but opened for everybody, that aims to help artists grow by giving them art

lessons and promoting exhibitions in their center. They also have a garden with orange trees that is being brought back to live with the help of international volunteers and gives a friendly green space for the association in the middle of town.

- 6. Floresta Viva, Lda: Is a local mushroom producer that manage the full process of the production, from the extraction of the seed, to the inoculation and finally to the growing and harvesting of the mushrooms. They use logs of oak trees for the production, control the full process and minimize all their waste, reutilizing all the materials during the process, from the sawdust they get when cutting the logs and making holes they use for the development of the fungus seeds, the leftover wood or the one that is not in perfect condition to grow mushrooms they resell as firewood, etc. They also work in partnership with a university on a study about medical uses for mushrooms.
- 7. **Cooperativa Biovilla**: Is a consumer Cooperative for Sustainable Development, which has 18 cooperators and was founded on February 12, 2010. Biovilla is a Sustainability and Permaculture project that aims to be a place for experimenting with technology, management models, and a holistic design for sustainability supported by (inter) national best practices both at the company and community level. In practice, biovilla is a project of Nature Tourism, sustainable agriculture and Education for Sustainability that materializes in the Serra da Arrábida Natural Park.
- 8. Associação Geota (Study Group on Spatial Planning and Environment): Is a non-governmental organization for the environment (ONGA) of national scope, with a status of Public Utility. It was legally constituted in 1986, but its existence as a reflection and education group in the environmental area dates back to 1981. GEOTA's mission is to defend the environment and promote sustainable development, in terms of education, information, professional training, political reflection and intervention, development cooperation and actions to solve problems specific environmental issues.
- 9. Horta FCUL: Created in October 2009 by a group of science students, which would later, in collaboration with the cE3c Research Center, start the Permalab Project, which focuses its activity on a campus space provided to promote permaculture practices, a social activity in which the science community is invited to promote agricultural practices thought and conceived in a systemic way based on ecological principles, in order to promote a sustainable future. PermaLab is thus an ecosystem open to innovation, centered on its users, integrating research and innovation processes proposed by permaculture in a transdisciplinary and transformative action-research environment with public-private-personal partnerships. As permaculture is a science-based planning system that mimics ecological patterns and relationships, PermaLab aims to assess and create scientific evidence for nature-based solutions, contributing to the regeneration of the university campus and mobilizing the science community. The demonstration and innovation potential of this initiative, and the technical-scientific monitoring of it, are clearly stated, through the recent publication of a study led by a PhD student in Sciences, which aimed to cultivate a commercial hybrid variety and a variety of open pollination of corn, based exclusively on municipal waste and green waste as sources of nutrients, and subsequently measuring yield and mineral nutrition as a contribution to sustainable urban agriculture.
- 10. Escola Profissional de Agricultura e Desenvolvimento Rural de Marco de Canaveses (EPAMAC): Is a VET school with 30 years of existence training competent professionals in the area of Agriculture and Rural Development. In addition to quality training, the school offers food, accommodation and transport to the young people who attend it. EPAMAC is inserted in a farm with 85 hectares, located in the municipality of Marco de Canaveses, 18km far from Amarante. Takes 3 professional courses at Level IV (secondary): Agricultural Production

Technician, Environmental and Rural Tourism Technician and Equine Management Technician, as well as an Education Training Course (Level III- basic) for Gardening Operator.

#### POLAND

 The Ministry of the Environment: By co-creating the state policy, cares for the environment in Poland and around the world and influences the long-term development of the country, carried out with respect for nature and human rights, so as to take into account the needs of both contemporary people and future generations. The Ministry of the Environment is a modern, professional, publicly trusted institution that rationally manages natural resources, cares for environmental education of the society and is open to cooperation in the field of environmental protection.

https://www.gov.pl/web/srodowisko

2. The League for Nature Conservation: Is the oldest ecological organization in the country. It was established on January 9, 1928, and the emblem of the association is a stylized bison with the name of the organization. LOP strives to ensure ecological safety for the present and future generations. It works by organizing seminars, workshops, conferences, camps, summer camps, nature trips, competitions, exhibitions and Olympics. It also undertakes intervention activities.

https://www.lop.org.pl/

3. The Polish Zero Waste Association: Was founded on March 11, 2017 in Warsaw. The mission of the association is to reduce waste produced at source, to support the circular economy model and to promote a zero-waste lifestyle.

https://zero-waste.pl/

- 4. The Center for Ecological Activities of the Source: For over 20 years has been dealing with broadly understood ecological, natural, global and civic education. The mission of the association is to constantly increase the level of environmental awareness of the society through active education, carried out mainly through workshops, training, field trips, information projects. https://www.zrodla.org/
- **5. The Eco-Initiative Association:** Is a non-governmental organization operating in the field of environmental education, nature protection and social animation. The organization tries to meet the needs of active citizens who want to implement social and environmental projects. The association's mission is ecology with people and
- 6. Greenpeace Polska Foundation: Is an independent international non-governmental organization that works to protect the natural environment. The organization focuses its activities on the most significant, both global and local, threats to biodiversity and the environment. Greenpeace has been operating in Poland since 2004. The Foundation does not accept donations from governments, political parties and corporations, and its activities are financed with the support of individual donors. <a href="https://www.greenpeace.org/poland/">https://www.greenpeace.org/poland/</a>
- 7. Our Earth Foundation: Is a non-governmental organization specializing in environmental and civic education. The areas of the Foundation's activities also include waste management, saving and protection of the Earth's natural resources, and the protection and preservation of biodiversity. <u>http://www.naszaziemia.pl/</u>



for people.

- 8. National Foundation for Environmental Protection: Pursuant to the provisions of the statute, the activities of the National Foundation for Environmental Protection focus on providing advices and consultations related to environmental protection, developing cooperation with local governments and nature protection services, promoting and implementing modern principles of biodiversity protection, conducting educational activities. https://nfos.org.pl/
- 9. Polish Green Network: Is a nationwide public benefit organization associating environmental organizations operating in the largest Polish cities. The union bases its activities on building civic support for sustainable development, creating mechanisms of social control of spending public funds, increasing the influence of consumers on the quality of products and the policy of global corporations. http://zielonasiec.pl/
- 10.Veolia Polska Foundation: The main objectives of the Foundation are to conduct and support activities in the field of environmental protection activities, educational and educational activities, including activities in the field of science, higher education, education, and upbringing. <u>https://www.fundacja.veolia.pl/</u>
- **11.Polish Chamber of Ecology:** The aim of the Polish Chamber of Ecology is to represent its affiliated entities in activities for environmental protection and sustainable development. The members are both large enterprises from the mining and professional power industry, as well as one-person companies, research institutes and universities. It carries out its mission and statutory tasks through organizational, educational, legislative and publishing activities.

http://www.pie.pl/

**12.Kielce City Hall:** In particular the Department of Municipal Economy and the Environment (Supervision over the implementation of the Municipal Environmental Protection Program. Environmental education and promotion of pro-ecological activities and the principle of sustainable development), the Department of Education (Keeping records of kindergartens and non-public schools and granting them subsidies, supervision over the activities of schools and kindergartens) and the Thematic group for environmental protection of the Integrated Teritorial Investment Office (Initiating joint projects in the area of the Kielce Functional Area; Participation in consultations in the preparation of strategic documents necessary to apply for funds for the implementation of projects; Creating a network of contacts between institutions and organizations operating on the territory of the NFA in the thematic scope of the group; Educational and information activities for local communities (meetings, workshops, posters, information leaflets, knowledge competitions about the ITI KOF); Expanding the knowledge of people who are members of groups).

http://www.um.kielce.pl/

**13.Marshall's Office of the swietokrzyskie Region:** In particular the Department of Environment and Waste Management:

https://www.swietokrzyskie.pro/category/urzad-marszalkowski/departamenty/departament-srodowiska-igospodarki-odpadami/ and the Department of Education, Department of Education, Sport and Tourism:

https://www.swietokrzyskie.pro/category/urzad-marszalkowski/departamenty/departament-edukacji-sportui-turystyki/

**14.Regional Fund for Environmental Protection and Water Management in Kielce**: It's general goal is to improve the condition of the environment and sustainable management of its resources by: stable, effective and efficient



support for projects and initiatives serving the environment in the Świętokrzyskie Voivodeship, full and consistent with the principles of sustainable development use of funds from the European Union for environmental protection, in relation to five domain environmental objectives (priorities): protection and sustainable management of water resources; rational waste management and protection of the earth's surface; protection of the atmosphere and protection against noise; protection of biodiversity and ecosystem services; and environmental education for sustainable development.

**7.** How are environmental-climate competences or the acquisition of environmental-climate awareness regulated in the respective framework curricula of schools and universities?

# PORTUGAL

It is necessary to foster the environmental education in Portugal and integrate it in the civic and educational dimension of the Portuguese school structure. There is still a long way to walk regarding environmental education in Portugal. The state authorities are looking for a way to intensify the role of the school in this subject, so they are integrating this topic in different subjects in school, investing in the training for citizenship. In 2017 the National Strategy for Environmental Education (ENEA 2020) was approved with the objective of establishing an effective compromise in the construction of a solid paradigm of environmental education. The intention is to have everybody join in a collaborative form for the protection of the environment in all dimensions of the human intervention. This strategy has 5 basic principles:

- Educate having in consideration the international experience;
- Educate having in consideration the national experience;
- Educate for the empowerment of the society towards the environmetal chalenges;
- Educate for sustanability;
- Educate for an intervining citizenship.

To achieve this they are using different activities such as sensibilization in the rural areas, sessions and workshops in schools, support in the realization of school projects, actions related with endangered species, etc.. <sup>4</sup>

Even though this is being done in every school year in different subjects, there is also an association called ASPEA (Portuguese Association for Environmental Education) that works closely with the schools with focus in 4 topics, regarding training an awareness: Continuous training of teachers; sensibilization sessions about environment; cooperation with municipalities and other local government bodies/projects of environmental education; training of environmental monitors.

#### POLAND

The process of environmental education and education must start from kindergarten so that the child grows in the awareness of the role of the environment in human life and responsibility for its protection. Only a long-term educational process will allow us to fully understand the meaning of the statement: "man is the whole of nature and is an integral part of the environment".

Education of children is the basis and condition for rational behaviour in the spirit of respect for nature here and now and in the future, as well as the desired behaviour towards others and oneself in order to maintain mental and physical health. Hence, so many documents regulating our life in the country, in the world – emphasize environmental education of children, youth and adults.

Ecological activities should be initiated already in kindergarten and continued in primary school. Problem solving environmental issues is to look for answers to the questions posed as a result of careful observation (of objects, phenomena, processes), during which the student acts and thinks independently, and reasoning (predicting results, explaining phenomena and dependencies).

<sup>&</sup>lt;sup>4</sup> https://www.e-konomista.pt/educacao-ambiental/



# Legal Acts:

In Poland, the legal basis for environmental education is contained in the following legal acts:

- a) The Act of 6 December 2006 on the principles of development policy (i.e. 2009, no.84, item. 712, as amended d.);
- b) The Act of 27 April 2001 Environmental Protection Law (i.e. Journal of Laws of 2008, No. 25 item 150, as amended d.);
- c) The Act of September 13, 1996 on maintaining cleanliness and order in communes (i.e. Journal of Laws of 2012, item 391, as amended);
- d) The Act of 29 July 2005 on waste electrical and electronic equipment (Journal of Laws of 2005, No. 180, item 1495, as amended);
- e) Act of April 16, 2004 on nature protection (i.e. Journal of Laws of 2013, item 627);
- f) The Act of 7 September 1991 on the education system (i.e. Journal of Laws of 2004, No. 256, item 2572, as amended d.);
- g) Regulation of the Minister of National Education of 27 August 2012 on core curriculum for preschool and general education in individual types of schools (Journal of Laws 2012, item 977);
- h) Regulation of the Minister of Science and Higher Education of 17 January 2012 on the standards of education preparing for the profession teacher (Journal of Laws 2012, item 131);
- i) Regulation of the Minister of Science and Higher Education of September 29, 2011 on the terms of program evaluation and institutional evaluation (Journal of Laws No. 207 item 1232);
- j) Regulation of the Minister of Science and Higher Education of November 2, 2011 on the National Qualifications Framework for Higher Education (Journal of Laws No. 253 item 1520);
- k) Regulation of the Minister of Science and Higher Education of November 4, 2011 on model learning outcomes (Journal of Laws No. 253 item 1521);
- I) The Act of 2 April 1997 Constitution of the Republic of Poland (Journal of Laws 1997, 78, item. 483, as amended);
- m) The Act of 16 September 2011 on development cooperation (Journal of Laws 2011 No. 234, item 1386);

# **National Strategies:**

a) "The 2030 National Environmental Policy – the Development Strategy in the Area of the Environment and Water Management " (PEP2030)<sup>5</sup>

The Core Curriculum for General Education - environmental issues appear in it with varying degrees of intensity in relation to various subjects and depending on the stage of teaching. The greatest the responsibility for teaching pro-ecological attitudes in the current General Education Foundation rests with subject teachers natural science: nature, biology, chemistry, geography, physics. Environmental education issues are implemented to a lesser extent on other subjects: history, social studies, ethics, classes technical and plastic. Ecological education is also carried out on higher education.

The objectives of environmental education resulting from the above-mentioned legal acts are:

- Shaping full and multifaceted awareness and awakening interest in related issues: social, political, economic and ecological;
- Enabling the acquisition and expansion of knowledge and skills, which are necessary for the protection and improvement of the environment;
- Creating pro-ecological behaviour patterns and shaping attitudes, values and beliefs that will provide care and protection the environment;
- Disseminating the idea of sustainable development in everyone spheres of life, including: education, work and leisure embrace environmental education of all citizens of the Republic of Poland;

<sup>&</sup>lt;sup>5</sup> Source: National ecological policy 2030 - development strategy in the field of environment and water management https://bip.mos.gov.pl/strategie-plany-programy/polityka-ekologiczna-panstwa/polityka-ekologiczna-panstwa-2030/



- Implementation of environmental education as an interdisciplinary education at the stages of formal and informal education;
- Creating environmental education programs at the levels administrative at the level of: regions and communes;
- Promoting good methods, ideas and experiences in the field methodology and ecological education<sup>6</sup>.

Environmental education should provide reliable knowledge about the environment, appeal to the imagination of children, awaken in them on the one hand an ecological approach, and on the other hand, sensitivity to the beauty of nature and shape the ability and willingness to act for the environment.

A teacher pursuing an environmental education program should remember that environmental education cannot just deal with education, that is, teaching knowledge, but it must educate, that is, shape pro-ecological attitudes.

# What does Polish school teach about the environment and climate?

In compulsory classes in various subjects, all students learn about environmental education. From kindergarten, they have instilled respect for the natural environment. They learn that caring for the environment is everyone's responsibility. It largely depends on our daily habits and the way we run a household.

During the classes, children shape appropriate habits, learning to save energy, water, raw materials, segregate and reuse waste, as well as ecological handling of technical products. They learn about climate change by getting to know the complexity of the issues. They implement this content on following school subjects: nature, geography, chemistry, physics and biology.

# Additional activities of the Ministry of National Education

Ministry organises and promotes number of activities promoting environmental education. It finance organization of national contest for students on geography and ecological knowledge. The latest competition about ecology was the most popular, compared to other school subjects competitions. It was attended by almost 26 thousand students<sup>7</sup>.

Ministry also organises trainings for teachers, thanks to which they improve their competences in the field of ecology, for example, the Education Development Center runs projects entitled Safe + or Global Education.

Educational law allows additional educational activities in schools on ecological issues. The school authority – at the request of the school head – may designate hours for each class to carry out additional educational activities. Emphasizing the importance of the topic of environmental education, the Ministry introduced a regulation that obliges teachers to discuss the most important climate and environmental protection issues with students from September 1, 2020 during classes with the teacher<sup>8</sup>.

#### TURKEY

# **Environment-climate awareness areas**

Governments can directly spend on public buildings and schools, hospitals and university buildings in order to use energy more efficiently. In addition, tax incentives can be introduced to private companies and households to promote building insulation. In order to ensure sustainable transportation, governments should be encouraged by international financial institutions in order to establish more environmentally friendly transportation models and infrastructures, to develop public transportation and to use green vehicles more effectively. It is estimated that, thanks to the increase in the production of low-emission vehicles, new employment areas will be created for approximately 3.8 million people (UNEP, 2009: 7). This increase in employment will increase even more with the help of stimulating the secondary sectors. In the field of sustainable energy, especially developed countries should

<sup>&</sup>lt;sup>6</sup>Source: Core Curriculum for General Education <u>https://podstawaprogramowa.pl/Szkola-podstawowa-I-III</u>

<sup>&</sup>lt;sup>7</sup> Source: Ministry of National Education: <u>https://www.gov.pl/web/edukacja/tresci-dotyczace-edukacji-ekologicznej-obecne-w-polskich-szkolach</u>

<sup>&</sup>lt;sup>8</sup> <u>https://kuratorium.kielce.pl/43934/edukacja-klimatyczna-w-polskiej-szkole/</u>

be supportive in contribution to the financing of ongoing clean energy projects. Developing country economies, on the other hand, should implement practices towards the widespread use of small-scale and off-grid energy systems. In the fields of sustainable agriculture and supply in clean drinking watergovernments also have important duties in creating added value, preventing water losses used in traditional irrigation, and improving water capacity and quality. The agriculture sector has continued to be the largest sector worldwide with billions of workers. At the same time, agricultural sector contains the poorest majority lives within itself. In the agricultural sector, sustainability is closely related to water supply. On the other hand, the supply of clean drinking water worldwide is under serious threat. According to a report prepared by the OECD, 40% of the world population will face the problem of finding clean drinking water in 2050 (OECD, 2012). In the report published by the International Labor Organization (ILO) in 2012, it is stated in many studies that new employment areas will emerge for 15-60 million people globally with the transition to green economy in all sectors. It is also stated that especially developing countries' economies have great advantages in the emergence of green jobs. According to many reports, an international investment of 30 billion dollars each year for the purpose of preventing deforestation will lead to 8 million people finding full-time jobs in developing countries (ILO, 2012: 7).

# Legislation and policy documents:

Protection of the environment and natural resources is handled in a comprehensive and detailed manner in legislation and policy documents in our country. In this respect, the Eleventh Development Plan period prioritization of key objectives seen in Turkey's environmental benefits and the area of sustainable management of natural resources are summarized below:

- Creating a climate-friendly, low-carbon development model;
- R&D focused on good environmental status and innovation strategies and dissemination of their applications;
- Developing national and sectoral capacity on environment and natural resource management;
- Increasing awareness about sustainability, environment and natural resources;
- Developing the monitoring and data management capacity and infrastructure in;
- Complying all the strategies and action plans in accordance with the Sustainable Development Goals;
- Diversification of incentives and tools related to environmental management and protection.

The National Youth and Sports Policy Document, approved as the Council of Ministers Decision No. 2012/4242 and published in the Official Gazette No. 28541 on January 27, 2013, is the most important reference policy document that defines the priorities of young people in the field of environment and climate sensitivity. In the said Policy Document; "Today, increasing environmental problems can negatively affect the lives of individuals and it is emphasized that they constitute an important obstacle for future generations to reach their right to live in healthy conditions; In order to eliminate or reduce environmental problems, it is primarily aimed to raise environmental awareness to individuals and to create effective and applicable policies to raise environmental awareness among young people and to increase the awareness of young people about environmental problems. In this context, in the said Policy Document, the policies and targets regarding environmental and climate sensitivity are as follows.

- 1. Making young people more sensitive to the environment and increasing their awareness;
- 2. Increasing the activities carried out in nature in order to spread the love of nature among young people.

The Strategic Plan of the Ministry of National Education covering the period of 2015-2018 states that education and training are vital for ensuring sustainable social and economic development, increasing the quality of life of the society and adapting the young population to changing conditions and taking our country's place in global competition. One of the strategies of the "Quality in Education and Training" in the Plan is stated as "School safety, environmental awareness, compliance with individuals who need special education, etc.. For increasing the spatial quality of schools, standards determined for educational environments, showing compliance with the standards such as the flags blue, green, etc., indicating as applications launching". Studies are carried out to include the subject in the curriculum. In addition, the issue of raising public awareness about the function of education in sustainable economic development is defined as an opportunity for the sector.

Environment and sustainability should be handled at different levels at all levels of education and training processes. As a result of the updates made in the primary and secondary education programs of the Ministry of National Education, the issues regarding environmental awareness and raising awareness should be conveyed to the students in a more effective and practical way. It should be ensured that students are educated as "environmental literate" in the protection of environment, biological diversity and natural resources in all education levels, and educational technologies should be used for this. In order for the environment to be included in the curriculum as a lesson and to carry out adaptation studies for the protection of the environment in other courses and to strengthen the culture of claiming rights in environmental issues, practices that emphasize the importance of recycling, water and energy saving should be initiated in all schools, examples of good practices should be increased and disseminated. Rewarding mechanisms should be developed to encourage those who do good practice. Environmental awareness and awareness should be increased in line with the lifelong learning perspective in order to raise generations that are more sensitive to the environment and living things in it. For this, awareness raising and information sharing in formal and non-formal education should be provided, learning by doing and experiencing should be brought to the forefront, project-based learning should be expanded, and institutions should be provided with effective training on their subjects and sectors. An active network including local governments, municipalities and city councils should be established, and knowledge and experience sharing should be strengthened for sustainable management of the environment and resources. Educational tools that will increase problem solving skills / competencies regarding environmental problems and solution suggestions should be designed. adding lessons on environment and sustainability, Business Management, Life Cycle Analysis, Green Economy, Environmental Management etc. from the Environmental Engineering Perspective to the finance curriculum of all relevant faculties of universities should be considered. It is important to to develop public awareness campaigns that include exemplary practices that touch daily life on these issues identifying the issues that the management of the environment and natural resources directly affect the lives of households such as food health and prevention of waste.

# 8. Main domains and job opportunities in your region related to environmental-climate issues?

# PORTUGAL

In Tâmega e Sousa region there are a lot of mountains, forests and rivers. This gives the conditions to create a lot of jobs related with environment. One of them is the wind farms that can be seen all over the mountains in the region. They are managed by a company called Enercon and they are responsible for building and maintenance of the wind turbines. There is a cooperative of renewable energies called Cooperativa Coopérnico that alia to its social nature the support to projects of solidarity, educational or of environmental protection. They have created a large community of citizens and companies willing to contribute to a new energetic, social and business model, they applied part of their savings into investments in small renewable energy projects, the electricity produced by them is integrated into the electricity grid and serves to supply families and businesses and they generate economic benefits, from the sale of the produced electricity, as well as environmental benefits with the production of clean electricity. Everyone can become a member and local groups work to give more visibility to the projects and to help organizations business or induvial interested in building renewable energy systems and having their energy provided by a cooperative that is 100% renewable and at a competitive price.

There is also the growing of a new type of businesses and workers, mainly in the rural areas and in the parks, called Green Entrepreneurs. Greentproject.eu<sup>9</sup> defines a green entrepreneur as "someone who starts and runs an entrepreneurial venture that is designed to be green in its products and processes from the very moment it is set up." Whilst they can and some certainly do, green startups do not have to solely specialize in sustainability. Rather, being a green entrepreneur means that whatever the choice of business field, sustainability will be embedded into

<sup>&</sup>lt;sup>9</sup> http://greentproject.eu/wp-content/uploads/2016/01/Definition-green-entrepreneurship.pdf

It has never been clearer that jobs in sustainability are growing and necessary. With a visible shift to include sustainability into many different career types, this could be a likely indication that sustainability will become synonymous with every job description and business type in the future.

With an increasing in rural tourism and in development of sustainable and environmentally friendly businesses many people are repairing old houses and the lands around them in order to create a peaceful place for people to enjoy their vacations away from the big cities. They offer seasonal jobs as well as volunteering opportunities. There is also companies that work in sustainable tourism in the forest, with hikes across the old roman paths and the water trails, birdwatching excursions and water sports such as kayak.

There is also a growing number of organic farmers in the Tâmega Sousa region, with 28 certified organic farmers in Amarante alone, showing an increasing awareness about the environment and a bigger focus on sustainable development.

# POLAND

# "Green economy "in strategic documents of the Świetokrzyskie region.

The deteriorating condition of the environment that took place from the mid-twentieth century directed the activity countries to pay particular attention to awareness-raising issues ecological and counteracting environmental threats. As a result of these actions, issues related to environmental protection (with particular emphasis on issues related to Effective Use of Energy and Renewable Energy Sources) are reflected in the records the following strategic documents:

- 1. Strategy "Energy Security and Environment a perspective until 2020": in the document this emphasis was placed on achieving economic growth in the country primarily through ensuring energy security and access to innovative technologies;
- 2. Development Strategy for the Świętokrzyskie Region until 2020:
  - Research and Innovation Strategy (RIS3) as part of sustainable energy development, green economy has been defined as one of the horizontal specializations of the region;
  - Regional Operational Program WŚ 2014-2020, Priority axis 3. Efficient and green energy, Thematic objective
    4. Supporting the transition for a low-carbon economy in all sectors.

Increased demand for education in the fields of study and job creation in the sector related to the "green economy" will mainly be shaped by the increase in the use of:

- Environmental technologies, i.e. technologies related to use renewable energy sources;
- Energy-saving technologies in construction;
- Technologies supporting energy and resource efficiency in processes production; and the growing popularity and universality of environmentally friendly services and products natural, appreciated by consumers.

The development of the "green economy" sector is primarily a necessity to build attitudes environmentally friendly among people, in particular through active education. When building the "green economy" sector, it must be assumed that all jobs are created or existing, related to environmentally friendly activities should be recognized for "green". "Green jobs" are an opportunity to increase the employment of specialists in various fields, e.g. scientists, architects, designers, engineers, entrepreneurs, officials, activists social workers, social advisers, farmers, technicians, operators, etc..

Due to the significant amount of electricity generated from renewable energy sources energy, amounting in 2014 to 19.841,2 GWh in Poland (of which in the Świętokrzyskie Region 12,2% was produced), a high share of renewable energy in electricity production (national average 12,5%, Świętokrzyskie 26,2%) and an increase in the average electricity consumption in the years 2004-2014 (by 15,7% in the country, and as much as 40,5% in Świętokrzyskie),

it should be assumed that the these will continue to exist<sup>10</sup>. Consequently, the demand for qualified personnel should grow find employment in newly created jobs related to production, processing, storage and transmission of energy. Moreover, there will be a necessity job creation by modernizing the current energy infrastructure in the province and the country. Therefore, it is necessary to create directions at different levels education related to energy production and saving, in particular taking into account in this regard, environmental protection and renewable energy sources.

This region should educate young people in related professions with obtaining electricity from biomass, because only mixed biomass nearly 33% of domestic energy production was generated in the Świętokrzyskie Voivodeship from this source. It is also projected that due to the fact that in the northern and north-eastern parts existing region, favorable wind conditions (10m/s) will contribute to the construction of the wind power plant. Construction of wind farms and obtaining energy from this source, as well as her collecting and uploading will generate jobs for people with proper qualifications.

It also seems necessary to educate and generate new jobs with obtaining electricity from sources that use solar energy because in the Świętokrzyskie region there are good conditions in this respect (average insolation is 1,600 hours a year).

All related professions should also be classified as "green professions" with the cultivation of energy crops. It is also extremely important and necessary to educate specialists dealing with developing innovative technologies and solutions related to the green industry economy<sup>11</sup>.

It is also justified to prepare for professions related to the broadly understood resource-efficient construction, in particular passive construction. It is predicted that the development of such construction will increase the demand for specialized electricians, installers, automation and electronics engineers.

Due to the fact that the protection of resources is not only due to concern for the state of the environment natural but also for purely economic reasons in the Świętokrzyskie region there should be more and more school/university graduates who will have knowledge and skills related to improving resource efficiency. Świętokrzyskie schools/colleges should educate in professions that deal with the production of products/services in terms of approach pro-ecological at every stage of the product/service life, including its disposal and recycling. The deteriorating condition of the natural environment will contribute to the creation of new places work for people who have qualifications to perform related services with the reduction of greenhouse gas emissions, the reduction of waste and pollution, and the protection ecosystems and restore them to their original state.

To generate new jobs that require appropriate qualifications in "green economy "will also have EU programs, some of which will be allocated for the creation of jobs related to the "green economy" sector and environmental protection.

The concept of green economy is inextricably linked with the paradigm of sustainable socio-economic development based on those areas of economic activity that play an auxiliary role towards the natural environment and on social responsibility for the quality of life for future generations. The question of distinguishing which sectors of the economy are related to the green sector can be considered from different points of reference<sup>12</sup>.

Generally, it can be concluded that almost all sections of the PKD (Polish classification of economic activity) contain activities that may have a positive impact on the environment. But following sectors are directly related to the green economy:

- 1. Agriculture, forestry, hunting and fishing;
- 2. Industrial processing;



<sup>&</sup>lt;sup>10</sup> Source: Analysis of the demand for education in the fields of developing workplaces in the area "green economy" in the *świętokrzyskie region*. Document prepared for the implementation of the Regional Program of the Świętokrzyskie region for 2014-2020.

<sup>&</sup>lt;sup>11</sup> Source: Analysis of the demand for education in the fields of developing workplaces in the area "green economy" in the *świętokrzyskie region*. Document prepared for the implementation of the Regional Program of the Świętokrzyskie region for 2014-2020.

- 3. Production and supply of electricity, gas and steam water, hot water and air for air conditioning systems;
- 4. Water supply; sewage and waste management and activities related to reclamation
- 5. Construction;
- 6. Wholesale and retail trade; repair of motor vehicles;
- 7. Transport and warehouse management;
- 8. Activities related to accommodation and services gastronomic;
- 9. Activities in the field of administration services and activities supporting;
- 10.Public administration and national defense; compulsory social security.

#### TURKEY

# Green Entrepreneurship Culture in the Regional Area;

Constantly damaged and economic activities are at the root of many environmental problems.

Environmental pollution endangers the future of people. Green entrepreneurship is one of the factors that will contribute to stopping environmental pollution. Green entrepreneurship has the potential to be a catalyst for positive change in both economic and environmental fields. Green entrepreneurs see the environmental dimension as an opportunity rather than a barrier, and they offer different types of jobs that are beneficial to the environment, socially responsible, economically satisfactory. In short, green entrepreneurs are looking for better ways to have a cleaner and greener world. There is still a lot to learn about green entrepreneurship, and the main goal of this study is to give definitions of green entrepreneurship and at the same time try to reveal what barriers are and their importance for the economy and society.

Environmental challenges faced today can be turned into economic opportunities by green entrepreneurs. For example, green entrepreneurs can be a bridge between increasing economic demands and environmental services by producing eco-innovative products and services such as new products made from recycled waste or services in the field of environmental technology (such as renewable energy). Activities of green entrepreneurs include activities such as eco-tourism, recycling, energy efficiency, sustainable mobility, organic agriculture, renewable energy, and green entrepreneurs contribute to the increase in the number of green jobs linked to these activities. Green entrepreneurship requires innovation and entrepreneurship together. Green entrepreneurship is important because of eco-innovations. Because eco-innovations will be the future competitive advantage of companies and countries want to be successful in the international market in the future, new and innovative environmental technologies, services and processes will be a much more important source of competitive advantage than low cost (McEwen, 2013: 270).

#### ROMANIA

The Europe newest strategies are targeting for a sustainable economy achieved by tracking two important directions: combating climate change and energy efficiency increase. In the Small Business Act (SBA) is issued the idea of turning environmental challenges into opportunities. For that, a Green Action Plan has been proposed. It provides a clear framework and guidance on how the EU, in partnership with Member States and regions, intends to help the small and medium size business to take advantage of the business opportunities offered by the transition to a green economy.

Two main objectives are the environmental damage correction and a low-carbon economy. These may be achieved also by utilization of eco-innovations, with the help of institutions who activate in the field of knowledge. This image must be completed by the industrial relations that facilitate cross-sectoral cooperation, these conditions allowing the emergence of eco-innovation clusters.

The transition to the green economy implies an appropriate concern focused on knowledge, research and innovation, which will create an enabling framework to promote long-term sustainable development.

Rational resources utilization is a specific topic of the training courses within the COSME program (2014-2020). Also, in Horizon 2020, we find the idea of cross-sectoral and interregional collaboration and innovation projects



carried out by small and medium size enterprises. This approach may contribute to better integration in clusters and in different value chains.

One important administrative sector is represented by the rural areas, in which the principal activity is agriculture. For that, in the future action must be considers in order to have a significant contribution on improving competitiveness and creating green jobs.

Specific objectives in the European context of green topic are related to different directions targeting (National Strategies for green jobs, 2018-2025): training and development of green skills; encourage lifelong learning and vocational training in the sectors agricultural and forestry; promoting the improvement of energy efficiency skills in buildings and in major urban infrastructure systems; development of waste management skills; promoting the improvement of clean technologies and low-emission energy or zero carbon; supporting partnerships between universities and the private sector to facilitate the transition from education to employment in the field of climate change or areas related.

9. What incentives, competitions, tenders, rewards are available at regional or supra-regional level to promote environmental awareness, sustainable development and to finance for green entrepreneurs?

#### PORTUGAL

In Portugal the state and the organizations promote environmentally friendly approaches and reward those in different ways.

Regarding State incentives, we have:

- Inovation Support Fund (FAI): For inovation, tecnological development and investment in the area of renewable energies and energetic eficiency, according to the goals defined by the National Plan of Action for Renewable Energies, the National Plan for Energy Eficiency and the national energy strategy.
- Energetic Efficiency Fund (FEE): Is a financial instrument capable of financing programs and policies acording to the National Plan for Energy Eficiency.
- Operational Program for Sustainability and Efficiency in the Use of Resources (PO SEUR): Contributes to prioritize a sustainable growth, answering the chalenges of a transition to a low carbon economy, with a more efficence usage of resources.
- Financial Instrument For Urban Rehabilitation And Revitalization 2020 (IFRRU2020): is a financial instrument with the aim of revitalizing cities, supporting the physical revitalization of space dedicated to disadvantaged communities and supporting energy efficiency in housing.
- Efficient Home 2020 (Casa Eficiente 2020): Is directed towards granting loans on favourable terms to operations that promote the improvement of the environmental performance of private housing, with special focus on energy and water efficiency, as well as urban waste management.
- Plan To Promote Efficiency In Electrical Energy Consumption (PPEC): Promotes measures aimed at improving the efficiency of electricity consumption, through actions undertaken by the various agents in the sector (from suppliers to consumers).
- Innovation, Technology And Circular Economy Fund (FITEC): Supports policies to enhance scientific and technological knowledge and its transformation into innovation, stimulates cooperation between Higher Education Institutions, Technological Interface Centres (CIT) and the business fabric, and enables a more efficient use of resources, namely through material and energy efficiency.
- Environmental Fund (FA): Supports environmental policies for the pursue of objectives of sustainable development, contributing to the fulfillment of the objectives, the national and international compromisses, specifically the ones related to the climate change, the hidric resources, the waste and the conservation of nature and biodiversity.

On a European level, there are also incentives that can be taken in Portugal, namely:



- European Strategic Energy Technology Plan (SET PLAN): Is the EU energy and climate policy research and innovation pillar since 2007. Recently revised to align effectively with the EU Energy Union's research and innovation priorities. It coordinates research and innovation activities in EU Member States and other participating countries (Iceland, Norway, Switzerland and Turkey). It helps structure European and national research programmes and triggers substantial investments in common priorities in low carbon technologies.
- Horizon 2020: Is a financial instrument implementing the Innovation Union, a flagship initiative of the Europe 2020 strategy, which aims to ensure Europe's global competitiveness. It aims to ensure that Europe produces world-class science, remove barriers to innovation and make it easier for the public and private sectors to work together on innovation.
- European Regional Development Fund (ERDF): Aims to strengthen economic and social cohesion in the European Union by correcting imbalances between regions. It concentrates investments in several priority areas, including a low carbon economy.
- European Fund For Strategic Investments (EFSI): Is one of the three pillars of the Investment Plan for Europe and aims to overcome current market failures by addressing market gaps and mobilizing private investment. It helps finance strategic investments in key areas such as infrastructure, research and innovation, education, renewable energy and energy efficiency, as well as risk financing for small and medium enterprises.
- NER 300: Is a financing program for innovative low carbon energy demonstration projects. Catalyst program for the demonstration of environmentally safe carbon capture and storage and renewable energy technologies on a commercial scale within the European Union.
- LIFE+ Climate Action: Is directed to support climate change mitigation and adaptation projects.
- Innovfin Energy Demo Projects is funding for commercial scale demonstration projects in the areas of energy system transformation, including, among others, renewable energy, intelligent energy systems, energy storage, capture and storage or carbon capture and use.
- **ELENA**: Provides subsidies for technical assistance focused on implementing energy efficiency, renewable energy and urban transportation projects and programs.

In terms of rewards we have:

- **European Green Leaf**: Is a prize to cities/municipalities with populations between 50.000 (fifty thousand) and 100.000 (one hundred thousand) people that recognizes the commitment to improve environmental outcomes, with particular emphasis on efforts that generate green growth and new jobs.
- ECOXXI Green Flag: Is a sustainability education program , implemented in Portugal by ABAE since 2005. It is mainly aimed at technicians and decision makers from municipalities considered privileged agents to promote sustainable development at the local level. Participation in the Program is voluntary, and each municipality is responsible for deciding whether to submit its application. Any municipality wishing to try the "ECOXXI tool" can register on the platform. We are a family owned and operated business. The Green Flag is an aggregating concept that identifies, recognizes and awards municipalities (ECOXXI), parishes (Eco-Freguesias XXI), as well as tourist destinations (Green Destinations), with good sustainability practices and policies and actions in around 21 indicators and more than 65 sub-indicators. We are a family owned and operated business. Turismo de Portugal is part of the National Commission, being a specialized jury for Indicator 21 "Sustainable Tourism".
- Blue Flag Program (ABAE): Has structured a new competition to reward the good environmental practices of the concessionaires that operate in classified bathing areas, since these agents are fundamental for the good functioning of the beaches, for the maintenance of the surrounding areas and for promoting sustainable behaviors.
- **EU eco-label**: Is a European label that applies to products with exceptional environmental characteristics, which meet the criteria required by the EU Ecolabel regulation. Today, more than 37,000 products sold on the European market carry the EU eco-label, which means that they meet strict environmental criteria.
- **Green Key**: is an international award coordinated by the Foundation for Environmental Education (FEE) and is developed in 66 countries, currently with a network of 3100 awarded establishments. The program attracts

national and international tourism market following the global trend of green marketing and also motivates staff towards the objectives defined by the establishment. iT aims to promote Sustainable Tourism through the recognition of tourist enterprises, local lodging, camping sites, conference centers and restaurants that implement good environmental and social practices, that value environmental management in their establishments and that promote Environmental Education for Sustainability.

#### POLAND

Funds for financing education for sustainable development are available from various sources, including National Fund for Environmental Protection and Water Management, Provincial Fund for Environmental Protection and Water Management, Ministry of Foreign Affairs (in the field of global education) or the Ministry of the Environment, most often in the form of competitions.

- National Fund for Environmental Protection: The National Fund for Environmental Protection and Water Management is a state legal entity that finances environmental protection and water management according to Act of April 27<sup>th</sup>, 2001, Environmental Protection Law. Entities applying for funding submit funding applications to the National Fund, which are subject to detailed assessment. Financing is provided to projects that fulfilled criteria set out in individual priority programs. Priority programs define in details, deadlines, procedures of submitting applications, form, intensity and conditions of co-financing, as well as beneficiaries and type of actions, eligible costs and the procedure for selecting projects. Co-financing of projects is carried out by granting:
  - 1. Interest-bearing loans;
  - Subsidies, including Additional payments to interest on bank loans, Making partial repayments of bank loan principal, Subsidies to the interest rate or the bond redemption price, and Subsidies for dismantling of vehicles.

The decision on co-financing is made by the Management Board of the National Fund, and in the cases specified in the Environmental Protection Law - by the Supervisory Board of the National Fund. Co-financing from the funds of the National Fund for Environmental Protection and Water Management is carried out in accordance with the "Rules for granting financing from the national environmental protection and water management fund". The basis for accepting and considering applications for co-financing in the National Fund are priority programs, which forms and conditions of co-financing and detailed criteria for selecting projects. The financial management of the National Fund for Environmental Protection and Water Management through priority programs guarantees a transparent, objective and impartial process of granting co-financing.

The list of priority programs of the National Fund for Environmental Protection and Water Management is approved annually by the Supervisory Board of the National Fund for Environmental Protection and Water Management. List of the priority programs of the National Fund for Environmental Protection and Water Management for 2020:

- Protection and sustainable management of water resources;
- Rational waste management and protection of the earth's surface;
- Protection of the atmosphere;
- Protection of biodiversity and ecosystem services;
- Cross-domain.<sup>13</sup>
- Provincial Fund for Environmental Protection and Water Management in Kielce: is a local government legal entity, operating pursuant to the Act of April 27<sup>th</sup> 2001 Environmental Protection Law. Statutory funds are allocated to co-finance tasks in the field of environmental protection and water management on the basis of the Environmental Protection Law and environmental protection policy, implemented in the Świętokrzyskie region. The aim of the Fund is to improve the condition of the environment and sustainable management of its resources by:

<sup>&</sup>lt;sup>13</sup> Source: <u>http://www.nfosigw.gov.pl/</u>



- Stable, effective and efficient support for projects and initiatives serving the environment in the Świętokrzyskie Voivodeship;
- Full and consistent with the principles of sustainable development use of funds from the European Union for environmental protection, in relation to the five domain environmental objectives (priorities).

The Fund's domain priorities are:

- 1. Protection and sustainable management of water resources;
- 2. Rational waste management and protection of the earth's surface;
- 3. Protection of the atmosphere and protection against noise;
- 4. Protection of biodiversity and ecosystem services;
- 5. Other environmental protection activities, including broadly understood environmental education for sustainable development.
- Other incentives to promote environmental awareness, sustainability and finance green businesses: The Ministry of National Education runs a number of activities promoting environmental education. Ministry finances the organization of subject Olympiads in geography and ecological knowledge. The latter is the most popular, compared to other Olympics. It was attended by nearly 26 thousand students. The Ministry also organizes training for teachers, thanks to which they improve their competences in the field of ecology, for example, the Education Development Center conducts projects entitled Safe+ or Global Education. Educational law gives the possibility of conducting additional educational classes on environmental issues in schools. The school authority at the request of the school head may designate hours for each class to conduct additional educational activities.<sup>14</sup>

In order to promote environmental awareness, numerous competitions and initiatives are held. An example of such a project is the "Green Studio" competition. The subject of the competition is to create a school studio project for the needs of natural, biological, ecological, geographic, geological or science. The idea for the development of the studio was assessed - its functionality, innovative solutions, variety of didactic aids. 108 primary schools from the Świętokrzyskie Voivodeship received up to PLN 20,000 in 2014 to create modern science education laboratories. The money was donated by the Provincial Fund for Environmental Protection and Water Management, which prepared a list of items and devices that can be found in such a workshop. They bind, among others with the use of renewable energy. Examples include a hydrogen powered vehicle, photovoltaic cells, models for focusing solar energy and kits to show energy generated from biomass. The laboratories also include devices for testing the content of individual elements in water and equipment for experiments in the field of soil and earth surface protection. The workshop serves both children and ecological education of adult inhabitants of communes.

The complex of Świętokrzyskie and Nadnidziańskie Landscape Parks in Kielce conducted educational classes, lectures and implements ecological projects. It regularly organizes an ecological competition called 'Ecology, us and the region we live in'. The project is aimed at young people from the Świętokrzyskie. The aim of the project is to inspire students' love and respect for the natural environment, to sensitize them to its diversity, richness and beauty, as well as to expand their knowledge of the region.<sup>15</sup>

In 2019, another edition of Hackathon Idea Kielce was organized in Kielce, with topic: Smart City. It is an urban programming marathon in Kielce, during which coding enthusiasts using open data of the city of Kielce created mobile and web applications to improve the quality of life in the city. The applications were to cover one of the following topics (or combine several of them):

- Urban space (availability of places and space for residents, urban landscape, advertising in the city, public space);
- Environment (renewable energy sources, solar energy, air protection, greenery);

<sup>15</sup> Source: <u>www.pk.kielce.pl</u>



<sup>&</sup>lt;sup>14</sup> Source: <u>https://www.kielce.uw.gov.pl/pl/biuro-prasowe/komunikaty/17371,Tresci-dotyczace-edukacji-ekologicznej-obecne-w-polskich-szkolach.html</u>

- Mobility and electromobility (transport and public transport, city travel, bike and car-sharing);
- Social communication cooperation (social consultations, notifying about city events, working in a group, social sharing).

Hackaton lasted 40 hours, over 150 amateur programmers worked on creating applications that would make inhabitants life easier. During the event, there were mentors who gave the participants valuable tips - including how to work in a team, under time pressure and how to present your product. There were valuable prizes for the best teams. The prize pool included tablets, smartphones and high-end electronic equipment. The best ones turned out to be high school students from the Kielce High School no. Juliusz Słowacki, who came up with an eco-application that would help in recycling.<sup>16</sup>

The Regional Science and Technology Center organizes one-day educational workshops entitled Ecoenthusiasts. Delegation from the school may consist of max. 4 students + 1 tutor. Topics related to promoting ecological awareness and sustainable development are discussed during the workshops.

The Center for Knowledge and Bioeconomy Development is located in the Regional Science and Technology Center with headquarters in Świętokrzyskie. It is an initiative created by representatives of research and development, business, scientific, local government institutions and the media. The center was established on January 11<sup>th</sup>, 2019 as part of the RDI2CluB project. INTERREG BSR. The activities of the Center are based on three goals:

- 1. Assisting micro, small and medium-sized enterprises in planning project management and implementation;
- 2. Networking help in establishing and maintaining contacts with entities with similar interests;
- 3. Lobbying for setting the bioeconomy as an intelligent specialization of the Świętokrzyskie Region.

The center is designed for micro, small and medium-sized entrepreneurs operating in the area of bioeconomy, i.e. the production of goods and offering services using the renewable resources that surround us in a sustainable manner. Almost every industry sector can operate in accordance with the principles of bioeconomy, offer high-quality products and services, while caring for the environment and getting rich. Even if the company was established and operates according to the old rules, which do not take into account the sustainable use of bioeconomy, nothing stands in the way of initiating changes and becoming "bio" in a short time.<sup>17</sup>

Province Office in Kielce implements an ecological education program for the Kielce Province, 'For the Earth, for myself' is co-financed by the Provincial Fund for Environmental Protection and Water Management in Kielce. At the turn of 2019/2020, the 16<sup>th</sup> edition was already held. Numerous ecological competitions for children and young people are announced, for example concerning recyclable materials, nature and its protection, waste segregation. The prizes in the competition are teaching and nature materials.

More and more institutions encourage companies to care for the natural environment, a good example is program 'ECOlogical in business'. It is a free educational project for all companies and institutions that run or want to introduce ecological solutions in their activities. Ecological activities can affect many key areas of the company that we have not linked to ecological changes.

A company participating in that program gains:

- 1. Free Ecological Package that company can implement and use immediately after registration;
- 2. Possibility of receiving a certificate confirming participation in the program;
- 3. Constant access to interesting articles, innovative solutions and ways to strengthen ecological attitudes;
- 4. Support in the process of planning ecological activities;
- 5. Implement ecological solutions, improvement of work safety and increase of employees' ecological awareness;
- 6. Strengthening the image of the brand and the employer better percebed by contractors and potential employees.

<sup>&</sup>lt;sup>17</sup> Source: <u>http://rcnt.pl/</u>



<sup>&</sup>lt;sup>16</sup> Source: <u>https://hackathon.kielce.eu/</u>

The materials available in the program allow for the implementation of basic activities aimed at running a "green" company, and the business cards of registered companies that have joined the program may be a selection criterion for potential contractors, and for other entrepreneurs a database of potential business partners.<sup>18</sup>

The Foundation for Education and Social Dialogue "Pro Civis" is an independent, non-governmental organization working to integrate business and science. The Foundation actively supports cross-sectoral dialogue by initiating, partnerships between institutions. The "Pro Civis" Foundation has a positive impact on the development of society and economy by popularizing knowledge and stimulating the growth of entrepreneurship, especially in the field of smart specialization and key technologies (Key Enabling Technologies KET). "Pro Civis" also implements projects related to social innovation, and supports initiatives for the development, testing and implementation of innovative tools and methods for managing technique and technology. The Foundation specializes in the implementation of research and implementation projects that help to face the social and economic challenges of the 21<sup>st</sup> century.

The Foundation established the Institute of Technology and Technology Management, which undertakes activities for intelligent and sustainable economic development. ITTM deals with the commercialization of knowledge and the implementation of new technological solutions. The analyses and research carried out by the Institute help to create the conditions necessary for the development of enterprises from various economic sectors.

The Foundation for Education and Social Dialogue "Pro Civis" is a member of the BIC Bio-based Industries Consortium. The Foundation is actively involved in popularizing the bioeconomy and the circular economy. It also works for the development of European technological potential, taking into account the sustainable management of natural resources. Pro Civis also supports work on modern education systems, as well as the development of human resources, which are key factors for building an innovative environmentally friendly economy.<sup>19</sup>

#### TURKEY

Access to financial resources of entrepreneurs in Turkey usually occurs through two channels, including free market and public sources. In terms of the open market, the banking system is the most important financial resource provider. Apart from the banking system, private enterprise capital firms can also be considered as an important financial resource provider for entrepreneurs. Some of the public aids provided by public resources are in the form of operational support (support for the activities of entrepreneurs and SMEs), while the other part is capital support (loan guarantee, loan interest support, etc.). On the other hand, there are also incentives (tax, social security premium, etc.) provided by different ministries to businesses and investors. Also; the institutions in public, İŞGEM and TEKMER type structures provides indirect support to entrepreneurs with its cash/in-kind contributions to the organization and business. Therefore, direct and indirect financial support provided to entrepreneurs and SMEs through public resources varies greatly (Ministry of Development, 2014: 32). Loan interest support provided by KOSGEB among public-funded supports, Techno-entrepreneurship Capital Support provided by the Ministry of Science, Industry and Technology to support new and innovative initiatives, capital supports in the form of New Entrepreneur Support by KOSGEB and the Ministry of Science, Industry and Technology, Ministry of Economy, TÜBİTAK, KOSGEB, TTGV, Development Agencies etc. institutions located supports activities granted by (Ministry of Development, 2014: 32-35). Banks in Turkey, as in most countries, is the most important source of financing for SMEs. Since small enterprises have more problems in accessing bank loans compared to large enterprises, various support programs are implemented by the public to increase the access of these enterprises to credit. These supports can be in different forms such as conducting credit programs with favorable conditions (such as low interest, long term) in line with policy priorities, creating loan guarantee systems and micro-credit systems. In

Erasmus+



<sup>&</sup>lt;sup>18</sup> Source: <u>http://ekologiczni.com.pl/o-programie/</u>

<sup>&</sup>lt;sup>19</sup> Source: https://www.procivis.org.pl/home/
recent years, developed countries have preferred policies that are less intrusive to the market, such as developing credit guarantee systems, making improvements in macroeconomic and financial systems (Yüksel, 2011: 2). Depending on the scale of SMEs and the business environment they are in, the nature and extent of the difficulties SMEs experience in accessing bank loans also differ. While small and young businesses generally have problems in accessing loans and cost of loans under all circumstances; Medium-sized enterprises may experience difficulties in terms of insufficient credit volume and unsuitable conditions in developed countries, and access to credit in developing economies. This situation, generally due to the underdeveloped financial system in developing countries is because of lack of liquidity and the inexperience and unwillingness of banks to lend to smallscale enterprises. Although there has been a development towards specialization in the banking system in SME loans in recent years, the situation is still far from the point it should have been. In Europe, activities related to enterprise capital gained momentum especially after 1980. In various studies, it is stated that the enterprise capital investments in Europe have gained momentum positively with the regulations and joint programs of the European Union member countries. In the study conducted by the European Central Bank based on the years 2007-2012, it was shown that enterprise capital investments were in a decreasing trend after 2008. Although there are various reasons for this, it is stated that the biggest reason is the economic crisis in the United States, which started in 2007, spread to international markets in 2008 and increased its impact size after 2009. In 2013, the total amount of entrepreneurship fund investment in Europe increased by 5% compared to 2012 and reached 3.4 billion Euros. In the same year, more than 3,000 companies were provided with entrepreneurship fund support.

## ROMANIA

The Romanian Academy has elaborated a report in the Project "Increasing the administrative capacity of the Ministry for Business, Trade and Entrepreneurship Development and implementation of the evidence-based public policy system ", SIPOCA 510/13 (Result R1.1.: Analysis on the evolution and current situation of the SME sector and the Romanian business environment (achievements, difficulties encountered, requirements and perspectives). Identify and propose necessary measures and actions to solve the reported problems. Based on the Principle 9: Helping small and medium enterprises to turn environmental challenges into opportunities, it has been reported that in reality the entrepreneurs have not been very concerned about sustainable development, and implementation of green solutions, energy and raw material savings. This situation conducted to the increase of their vulnerability to rising energy and raw material prices. In these conditions the traditional business models need to be changed, with ones based on green principles.

The European Commission tends to support innovative start-ups, especially in the field of eco-innovation, by facilitating market access, financing, technology transfer, organic products and sustainable businesses, etc.

On Romanian level the National Association of Ecological and Cultural Rural Tourism, member of the European Federation of Rural Tourism, a non-profit organization, which has over 3,500 members, is carrying out different activities as: participation in tourism fairs and exhibitions, promoting the potential of rural tourism, supporting newly joined pensions, organizing active promotion campaigns, organization of training programs.

http://www.antrec.ro

## GERMANY

Within the framework of the Decade of Education for Sustainable Development (2005 - 2014) organized by the German UNESCO, almost 3,000 environmental education projects in Germany received awards, while in Berlin the number of projects awarded was 180. This is a comprehensive collection of good practice examples from all areas. This UN Decade generated a great deal of motivation and a spirit of optimism for environmental education in Germany because it involved the most important ministries, trade associations, trade unions and organisations. Participation was considered a prerequisite for successful environmental education.

In the long term, the World Action Programme (2015-2019) aims to anchor environmental education and education for sustainable development in the education system:

# https://www.bne-portal.de/de/nationaler-aktionsplan-1702.html

Examples of good practice are role models and have an impact by showing how ESD can successfully move from project to structure. Already during the UN Decade, projects, measures and local authorities were awarded with great success by the German Commission for UNESCO (DUK).

The criteria for awarding the prizes were extensively developed further in WAP ESD. Since 2016, the Ministry of Education has been awarding the German UNESCO in the categories "learning locations", "networks" and "municipalities". Their hallmark: a particularly successful implementation and long-term anchoring of ESD. At the Agenda Congress 2016, 65 municipalities, learning locations and networks were honored. The awardees make an outstanding contribution to the implementation of the United Nations' Agenda 2030 and the WAP ESD in Germany. Among them is the network of sustainable book boxes developed by INBAK.

A summary of these and other projects can be found here:

https://www.umweltbildung-berlin.de/projekte-wettbewerbe/

The Council for Sustainable Development (<u>https://www.nachhaltigkeitsrat.de/</u>) organizes an annual competition, which is integrative and also relates to environmental education:

https://www.tatenfuermorgen.de/fonds-nachhaltigkeitskultur/ideenwettbewerbe/

# Quality seals and awards for schools

- Environmental School in Europe International;
- Sustainability School.

"Environmental School in Europe - International Sustainability School" is a call for proposals by the European Environmental Education Foundation F.E.E. (Foundation for Environmental Education), represented in Germany by the German Society for Environmental Education (DGU). http://www.umwelterziehung.de/Gegenwärtig more than 30,000 schools in more than 50 countries worldwide are participating; in Germany there were more than 900 schools from 8 federal states last school year. In Berlin, 46 general education schools and 13 vocational schools have the "Berlin Environmental School" award. The schools are honoured for the development of holistic processes and structures of sustainability in their schools.

https://www.bne-portal.de/de/un-dekade-bne-2005-2014-1728.html

## **Berlin Climate Schools**

Every year, GASAG (an enterprise delivering energy) and the State of Berlin hold the "Berlin Climate Schools" competition. It promotes projects and activities with which Berlin schools contribute to more climate protection and adaptation to climate change. The competition honors particularly committed schools for their involvement in climate protection. The categories in which schools can apply include resource protection, adaptation of technical processes at school or the redesign of everyday school life towards greater sustainability. In contrast to the other Länder, it is not whole schools as school communities that apply here, but individual project teams of pupils together with accompanying teachers.

https://www.berliner-klimaschulen.de/

## Youth competition

A competition for pupils and trainees of the Federal Ministry of Education and Research, which was launched in 2003. Since then, every year several thousand pupils and trainees throughout Germany and at German schools abroad worldwide develop innovative business ideas, draw up business plans and lead their virtual companies to economic success over eight business periods.

"In the course of the competition year, participants can gain in-depth insights into economic interrelationships and learn about the importance of initiative and entrepreneurial spirit for their own work. Around the competition, a growing educational platform on the topic of Entrepreneurship Education has been established, which provides



more in-depth knowledge about founding, business studies, creativity, innovation and other topics in an ageappropriate way" (Wikipedia). <u>https://de.wikipedia.org/wiki/Jugend\_gr%C3%BCndet</u>

# **Federal Environmental Competition**

This competition is about dealing with an environmentally relevant topic from the fields of nature, ecology, climate, economy, society, consumption, technology, politics, health or culture;

Promotion of environmental knowledge among young people and their independence, creativity and initiative. <u>https://wettbewerbe.bildung-rp.de/mint/bundesumweltwettbewerb-vom-wissen-zum-nachhaltigen-handeln.html</u>

# Youth tests

Jugend testet is a youth competition run by Stiftung Warentest in Germany, in which young people can test goods and services independently. The best tests are awarded prizes by a jury of test experts from Stiftung Warentest and other experts from the media and consumer protection

https://www.jugend-testet.de/

# Youth research

"Jugend forscht" is a competition for pupils and young people in the field of natural sciences and technology and is regarded as the best known in Germany. It was initiated in 1965 by the then Stern editor-in-chief Henri Nannen. The annual Jugend forscht competition is organized by the Jugend forscht e. foundation. https://www.jugend-forscht.de/teilnahme.html

# 10.Briefly describe the Green Entrepreneurship culture in your region and list some possible actions to increase it?

## POLAND

Green entrepreneurship can provide new employment opportunities to workers who are set free during the restructuring towards a greener economic model. The implementation of this model brings four facts which have to be emphasized as follows:

- Green entrepreneurs are indispensable for employment creation and GDP growth;
- SMEs are highly interlinked within value chains, creating significant spill-over effects;
- Green entrepreneurship can best be supported through interventions at various levels, using a broad choice of instruments;

- Finally the youth can be well targeted, since entry requirements are low and willingness for innovation is high. Moreover, sustainable development indicators presents involvement of some member states in European integration expressed in cohesion in environmental policy and reflect better shift to green model of EU development. Finally the relations between so described areas of European integration indicates that further research in this topic is required<sup>20</sup>.

In a wider approach, the basic factors supporting the development of green entrepreneurship are environmental regulations, which is a factor supporting the environmental commitment of enterprises<sup>21</sup>.

<sup>&</sup>lt;sup>21</sup> Montes, A. (2011). What is Green Entrepreneurship? [online]. [cit. 2018-02-05]. Available at: <u>https://www.an-entrepreneur.com/public-content/greenentrepreneurship/what-is-green-entrepreneurship/</u>



<sup>&</sup>lt;sup>20</sup> Green Entrepreneurship in the European Integration Context Adam Sulich, Tomasz Zema, Piotr Zema, Proceedings of the 4 th International Conference on European Integration 2018

Stagos	Motivos	Barriers
Slages	IVIOLIVES	Darriers
Commitment	<ul> <li>restrictive legislation promoting productivity and innovation</li> </ul>	<ul> <li>lack of implementing regulations,</li> <li>complicated administrative and legal procedures</li> <li>costs associated with compliance to regulations and standards</li> </ul>
Proactivity	<ul> <li>the advantage of being first on the market (competitiveness)</li> <li>improving the image</li> </ul>	<ul><li>lack of perceiving benefits</li><li>difficulties in accessing finances</li></ul>
Innovation	<ul> <li>ecological market development through innovation</li> <li>social and environmental responsibility</li> </ul>	<ul><li>lack of expertise</li><li>lack of human resources</li></ul>

Table 1: Motives and barriers at various stages of the development of ecological entrepreneurship<sup>22</sup>

The development of eco-entrepreneurship is fostered by three main groups of factors:

- 1. Tightening of ecological standards, improvement of legal regulations, simplification administrative procedures at national and international level, and incentives financial inducing entrepreneurs to pro-ecological activities;
- 2. Rapid development of markets for green goods and services;
- 3. Increasing interest in obtaining ecological products by consumers, and thus in their production by entrepreneurs.

# SME eco-awareness in Poland

- In theory 93% of companies believe that their industry has a big impact on the ecology;
- In practice, only 46% undertakes eco-activity in his company;
- 96% companies implement eco-measures due to applicable legal regulations.

# Green energy in SMEs

- As much as 95% of SMEs do not use renewable energy;
- 4% of the companies invest in photovoltaics, 8% plans it in the future, including 30% medium-sized enterprises;
- Initial installation cost, according to 87% companies is the biggest barrier to investment in renewable energy.

# Eco car fleet in SMEs

- Only 1% of the companies have hybrid cars, 6% has them planned. In medium-sized companies 16% are planning;
- The minimum range of an electric car should be between 500 and 700 km, to consider buying it;
- By 25-30% more compared to traditional drive, SMEs would be able to pay for an electric car.

# SME eco-strategies

- Eco-skeptics constitute the largest group of SMEs: 38% of the companies implement eco-activities because they must;
- Ecoresponsible is 17% of the companies: they care about the atmosphere, because it is worth it and so it should be<sup>23</sup>.

<sup>&</sup>lt;sup>23</sup> <u>https://www.teraz-srodowisko.pl/aktualnosci/zielone-inwestycje-MSP-raport-9184.html</u>



<sup>&</sup>lt;sup>22</sup> MOTIVES AND BARRIERS FOR GREEN ENTREPRENEURSHIP: A SYSTEMATIC REVIEW, M. URBANIEC at Oxford Conference Series | October 2017 2nd Academic International Conference on Interdisciplinary Business Studies- AICIBS 2017 7th International Conference on Trade, Business, Economics and Law- ICTBEL 2017 Conference Proceedings.

**Micro companies (1-9 employees)** are least aware of the impact on the environment and are the least likely to undertake activities in this regard.

- The main one in eco-measures motivation is compliance with regulations and regulations;
- The main barrier to investing in ecology are more work related to caring for environment;
- Simplify implementation procedures ecology would facilitate the implementation of eco solutions;
- This group most often claims to be eco-initiatives can bring financial and image benefits<sup>24</sup>.

**Small companies (10-49 employees)** have a greater than average survey average awareness of the impact on environmental protection and take action more often in this area.

- The main one in eco-measures their motivation is exploitation;
- Actions taken in building the image and compliance with regulations;
- Among the barriers to investing in ecology the biggest challenge is related labor input with care for the climate;
- The implementation of eco-solutions would make it easier for small businesses subsidies and allowances and increasing the importance of ecology in customer purchasing decisions.

**Medium companies (50-249 employees)** are the most aware environmental impact. Most often they also take ecomeasures.

- The group of medium-sized entrepreneurs gives the lowest ratings the state of the natural environment;
- Among the barriers to investing in ecology most often indicate higher material costs organic used in production;
- Medium-sized companies invest much more often into renewable energy and electromobility;
- Medium-sized companies, less often than micro and small, say that their industry has a big impact on ecology.

Companies from the SME sector have a smaller impact on the environment than they could. They do not always have the funds to do so, and they lack fundamental knowledge.

# The government is the leader of (r) evolution ecological in Poland

Micro, small and medium-sized entrepreneurs see an important role, ,which should be played by the public administration in (r) ecological evolution. More than half of those asked believes that it is the government that has the greatest influence to improve the condition of the natural environment in Poland. First of all, because it implements regulations. A SME they are driven more by what the regulations require than social responsibility. Almost every fourth the business owner claims that this is the role of consumers. Only every seventh entrepreneur points to international organizations dealing with ecology.

# **Conclusions for the future**

The image aspect will also contribute to "greening" the business. Today, more and more customers are looking for services and products that are ecological and made of healthy products, with care for the environment. Corporate social responsibility, i.e. CSR, is also gaining importance. Taking into account that in various spheres of business, Poland follows the paths that were previously paved in Western Europe, it can be expected that in the coming years having an "eco" badge will be not only a way to build a competitive advantage, but even a necessity. This is demonstrated by today's popularity of ecological food, beverages, clothes, cosmetics, but also more valuable products, such as cars and finally home.

However, intensive research is underway to lead to a technological breakthrough. At the same time, the EU takes care to ensure adequate financing of green projects. By state the findings in Brussels when our report was written, in 2021-2027 Europe 30% of budgetary resources and programs aid aimed at economic reconstruction after coronavirus is to be allocated to climate protection.

<sup>&</sup>lt;sup>24</sup> Zielona energia w MŚP Pod Lupą, Special report 2020, <u>https://www.teraz-srodowisko.pl/media/pdf/aktualnosci/9184-raport-zielona-energia-MSP.pdf</u>



In the case of Poland, all EU funds from the future perspective the budget will amount to EUR 125 billion, and those earmarked for protection climate and environment - around EUR 37 billion. This is a huge amount that spending will mean a strong boost to the domestic economy.

There is great hope that thanks to EU funds in the coming years will also see more effective support tools for companies, both in the green energy sector and, for example, in the green sector transport. Both are used by individuals users and companies.

#### TURKEY

#### The importance of green entrepreneurship

While the understanding of green economy aims to minimize and eliminate risks such as climate change, water scarcity and losses on the ecosystem, with this process, it prepares the ground for the emergence of new professions and economic activities. The new fields of activity, which are expressed as "brown jobs" and are expected to replace many occupational groups that pose various risks on the environment, are called "green jobs". The transition to a green economy has various potential effects, both positive and negative. It will require new equipment and infrastructure elements to meet the investments and demand increases that will arise in green goods and services. This will lead to an expansion of the current number of industries and entrepreneurs. In this way, more labor demand and an increase in the number of green jobs will occur primarily in green sectors. In addition, due to the increasing inter-industry relationships of expanding industries, it will also create additional employment opportunities in many areas such as insulation materials that provide input to green sectors, cement production, steel and carbon production. Thanks to these additional activities, redistribution of created income with expenditures, additional investment and consumption, is one of the positive aspects thought to arise with green jobs (ILO, 2012). Along with economic growth, with less pollution and more efficient use of resources, with fields such as energy, water, waste, construction, agriculture, forestry and special emphasis is placed on these new areas of employment that emerge within the framework of managing structural changes such as traditional economic sectors and potential adverse effects on vulnerable households (UNEP, 2010a). These new employment areas, called green jobs, will emerge in the agriculture, construction, energy, forestry and transportation sectors. However, in sectors whose natural capital has started to decrease significantly, such as in the fishery sector, it may cause profession and income losses in the short and medium term in order to increase the natural stocks again. At the same time, it may be necessary to make various investments to retrain the workforce in the sector and to gain new skills. Efficient use of energy in buildings is extremely important in preventing damage to the environment and creating new employment areas. Energy use, greenhouse gas emissions and approximately 30-40% of total waste originate from buildings. By using existing construction technologies, it is possible to reduce energy use by 80% compared to traditional designs. Governments can spend directly on public buildings and schools, hospitals, and university buildings in order to use energy more efficiently. In addition, governments may introduce tax incentives to private companies and households to promote building insulation. In terms of sustainable transportation, governments need to be encouraged by international financial institutions to improve public transport and to use green cars more to be able to create more environmentally friendly transportation models and infrastructures that use energy more effectively. It is estimated that, thanks to the increase in the production of low-emission vehicles, new employment areas will be created for approximately 3.8 million people (UNEP, 2009: 7). This increase in employment will increase even more as it stimulates the secondary sectors. In the field of sustainable energy, especially developed countries should be supportive in contributing to the financing of ongoing clean energy projects. Developing country economies, on the other hand, should implement practices towards the widespread use of small-scale energy systems (off-grid) that can store energy. In sustainable agriculture and clean drinking water supply areas, governments have important responsibilities in creating added value, preventing water losses used in traditional irrigation, and improving water capacity and quality. The agriculture sector continues to be the largest sector worldwide, with billions of workers. At the same time, the poorest majority lives within the agricultural sector. Sustainability in the agricultural sector is closely related to water supply. On the other hand,



the supply of clean drinking water worldwide is under serious threat. According to a report prepared by the OECD, 40% of the world population will face the problem of finding clean drinking water in 2050 (OECD, 2012). In the report published by the International Labor Organization (ILO) in 2012, it is stated in many studies that new employment areas will emerge for 15-60 million people globally with the transition to green economy in all sectors. It is also stated that especially developing countries' economies have great advantages in the emergence of green jobs. According to the Report, an international investment of 30 billion dollars to be made every year for the purpose of preventing deforestation will lead to 8 million people finding full-time jobs in developing countries (ILO, 2012: 7).

## Green entrepreneurs can:

- Contribute to the formation of a green economy. The green economy is a complex process that covers various
  sectors and different technologies, and also seeks effective jobs and ways of working together with social
  change. According to the United Nations Environment Program (UNEP), the green economy describes an
  economy that results in the development of human well-being and social equality, while reducing environmental
  risks and ecological scarcity (Hewitt, 2012: 5).
- Create a dynamic framework for environmental development by replacing existing traditional production methods, products, market structures and consumption patterns with superior environmental products and services (OECD, 2013: 37).
- Contribute to green growth. Green growth is to ensure that nature assets continue to provide resources and environmental services that underpin our well-being by guaranteeing, economic growth and development. To do this, environmentally friendly growth will catalyze innovations and investments that will support sustainable growth and increase new economic opportunities (OECD, 2011: 1).
- Be seen as an important change factor in terms of sustainable development and starting their activities as an environmentally sensitive enterprise during the establishment phase of many businesses (Efeoğlu, 2014: 104).
- Challenge exisiting markets: While businesses created by green entrepreneurs embody environmental values, they also challenge existing markets by proposing innovative solutions to existing and emerging needs. Green entrepreneurs can become a role model for potential entrepreneurs by creating a new business concept that combines environmental performance with market goals and financial goals, and contributing to the growth and expansion of green markets (OECD, 2013: 67).
- Develop activities such as eco-tourism, recycling, energy efficiency, sustainable mobility, organic agriculture, renewable energy, and green entrepreneurs contribute to the increase in the number of green jobs linked to these activities.
- Be an important opportunity for women entrepreneurship in developing countries where agriculture takes an important place. Especially if micro, small and medium-sized enterprises and green cooperatives to be established by women entrepreneurs in underdeveloped regions are combined with marketing and business development skills, it contributes to women's empowerment, income generation and the development of women's entrepreneurship and creates economic dynamism. At the same time, eco-friendly agriculture is a rapidly growing area and can offer strong prospects for the future of rural development (Sanyang, Huang, 2008: 677).
- Turn environmental challenges faced today into economic opportunities. For example, green entrepreneurs can be a bridge between increasing economic demands and environmental services by producing eco-innovative products and services such as new products made from recycled waste or services in the field of environmental technology (such as renewable energy).
- Get along innovation and entrepreneurship. Green entrepreneurship is important because of eco-innovations. Because eco-innovations will be the future competitive advantage of companies and countries. If companies and countries want to be successful in the international market in the future, new and innovative environmental



technologies, services and processes will be a much more important source of competitive advantage than low cost (McEwen, 2013: 270).

- Find new technologies: Global population growth affects green entrepreneurship. The increase in the world population will also increase consumption. These increases in consumption can have a negative impact on ecosystems. Green entrepreneurs are also important in finding new technologies to protect the environment in the face of increased consumption (McEwen, 2013: 270).
- Fight agaisnt the acceleration of the extinction of wild animals' habitats, of various plant species, and the continuing destruction and suffering of tropical forests inhabited by the world's richest species, ie the loss of biodiversity, also confirm the need for entrepreneurial action to solve environmental problems. There is a need for a new type of entrepreneurship that takes environmental concerns into account: green entrepreneurs (McEwen, 2013: 270-271).
- Be also important in terms of employment. Green entrepreneurs will create jobs in many sectors such as agriculture, construction, forestry and transportation, with job growths that will be more visible than current jobs in the short, medium and long term (Creech, Huppe, Paas, Voora, 2012: 8).
- Increase green entrepreneurship activities and R&D studies in the field of environment ensures that the foundations of a new entrepreneurship system are laid globally by spreading the studies for cleaner production and sustainable consumption to a wider audience (EKOIQ, 2015: 44), and green entrepreneurs have the potential to play an important role in the development of a more sustainable economic and commercial system (Schaper, 2010: 13).
- Contribute to the creation of a sustainable green economy by offering green products and services, applying and promoting green production techniques, increasing demand for green products and services, and creating green jobs (ILO, 2014: 2).

# Support for green entrepreneurs

In our country, the fact that the concept of entrepreneurship has only just matured, creates an obstacle for Green Entrepreneurship. Nevertheless, in Turkey 'support given the green of firms it is increasing every year. National support mechanisms such as angel investor networks, incubation centers, technology development zones, TUBITAK (The Scientific and Technological Research Council of Turkiye) supports, and international support mechanisms such as Horizon 2020 are some of them.

Moreover, Turkiye's first green entrepreneurship, the establishment of the center and ensuring a sustainable structure for the purpose of 2018 at the Büyükçekmece Municipality of coordination established by the Global Environment Association "for International Green Entrepreneurship and Employment Center", organizing training for entrepreneurs between the age of 18-29.

However, the Technology Development Foundation of Turkiye (TTGV) collaborating their activities with Spain Cleaner Production Regional Environment Center to (RAC / CP), for realizing "green entrepreneurship in the current situation for the establishment of a sustainable lifestyle in Turkiye, conducted a research and review study also identifiing the current situation, challenges and opportunities of green entrepreneurship.

The studies conducted were collected together with green entrepreneurship examples in the "GreenEntrepreneurship in Turkey" publication. In addition, with the support of Green Technology Projects (YETEP) within TTGV, it provides refundable financing support to application projects carried out by industrial organizations in the fields of climate-friendly technologies, clean production technologies and energy efficiency, renewable energy and other energy technologies.

## New jobs: Green jobs

The green economy can be defined as an idea that includes all people and all countries in the world, aims to protect the environment for both present and future generations, and symbolizes a fairer and more sustainable economy and society (UNEP, 2008a: 1). Green economy, with a more specific definition, consists of all kinds of clean

technology, goods and service production activities aimed at measuring, preventing, limiting, minimizing and eliminating environmental damages related to water, air and soil as well as waste, noise and eco-system related problems. (OECD, 1999: 9). Green jobs are also businesses that provide employment opportunities in sectors highlighted by the green economy. These sectors are classified as (Evans Klock and Poschen: 2008: 14):

- Renewable energy;
- Energy efficient: buildings, industry and transport;
- Mobility: public transport;
- Recycling, waste management;
- Sustainable agriculture and forestry;
- Environmental services.

Green jobs are expected to find solutions to two determinant problems that humanity may face in the 21<sup>st</sup> century. According to a report published by the UN Environment Program (UNEP, 2008a: 1), these solutions/problems are:

- Preventing dangerous and potentially unmanageable climate change and protecting the natural environment that supports life on earth, and;
- The provision of decent work for all, and therefore prosperity and dignity, in the face of rapid population growth worldwide and the current possibility of exclusion from the economic and social development faced by more than one billion people.

The green economy offers great opportunities for starting new businesses, developing new markets and low energy costs. The trends and investments observed in the markets confirm this assessment. The global market size for environmental products and services is projected to double from \$ 1.370 billion to \$ 2.740 billion by 2020. Half of this market is based on a balance between energy efficiency and sustainable transport, water supply, sewerage and waste management.

## Eco-entrepreneurship

Globalization process in the world; It has led businesses to seek activities that will gain competitive advantage and create value. While these efforts of businesses created an economic revival in their countries, they led to indescribable distortions on the natural environment. For example, the high profit target of enterprises has resulted in pollution of the natural environment, unconscious consumption of natural resources, reduction of biodiversity and unlimited degradation. This situation has resulted in sustainable development studies, in which the economy and the environment interact, and therefore the necessity to be evaluated together. Sustainable development studies based on improving the quality of life without harming natural resources have brought entrepreneurs to the fore with their innovation and creativity features. At the end of this process, eco-entrepreneurship, expressed as environment-oriented entrepreneurship, has emerged as a new type of entrepreneurship.

## The concept of new entrepreneurship (Eco-entrepreneurship)

Entrepreneurs: They play a role in the detection of problems that cannot be solved with their individual efforts and in the satisfaction of known or unknown needs. At this point, entrepreneurs are expected to notice and activate these gaps. Entrepreneurs try to respond to customer expectations by making changes and transformations in existing products and services, by providing new products and services or by doing both. Entrepreneurship efforts shaped in line with customer expectations have shifted from the pursuit of quality to an environmentally oriented approach in the last two decades. In today's global market, entrepreneurs have had to turn to activities of a new strategy such as waste minimization, green product design and green-oriented technology partnerships of the developing world. Therefore, the concept of entrepreneurship gained a new dimension and resulted in the concept of eco entrepreneurship (Aykan, 2012). Eco entrepreneurship is basically defined as establishing a business that offers products and services that may cause minimum damage to the environment with an innovative approach. More broadly, eco entrepreneurship; It is defined as the establishment stage of an innovative, market and personal oriented business that can create value through environmental innovations and products. Entrepreneurs who carry



out eco entrepreneurship activity are called eco entrepreneurs. Isaak generally defines eco entrepreneur and eco entrepreneurship as follows: An ideal eco entrepreneur is a person who strives to transform the economic sector in which he works into a completely green business.

Eco entrepreneurship can be described as a business behavior dedicated to sustainability. (Aydın & Çakar, 2014). Scientifically stated definition of eco entrepreneurship is symbolized as in Figure 4.1. Considering the information in Figure 4.1, establishing the field of entrepreneurship and sustainability studies with a common understanding constitutes eco entrepreneurship. Basic thinking in eco-innovation, eco-opportunism and eco-commitment; To be able to create innovations that will reduce the impact of human beings on ecology by taking advantage of ecological practices and ensuring the commitment of these practices to ecology friendly goals. Therefore, ecological efficiency, environmental cost leadership and ecological branding can be expressed as important environmental strategies to realize these ideas. Eco entrepreneurship covers all the activities that will increase the positive contribution of the businesses to the society with their activities and minimize the negative effects on people and the environment while at the same time realizing the entrepreneurship goals of the enterprises. In this context, eco entrepreneurship includes environmentally oriented practices that concern all stakeholders such as customers, business partners, employees, suppliers of enterprises and guide them to interact. In the literature, entrepreneurship and environmental issues have started to be discussed in the 1980s. Eco entrepreneurship has emerged as a field of work within the scope of green management activities that is not well known and understood by entrepreneurs. With the importance of sustainable development studies, eco entrepreneurship started to gain importance at the end of the 1980s with the publication of the Bruthland Report (1987) by the World Commission of Labor and Development. In the 1990s, an increase in 134 eco-entrepreneurship activities has been observed.

While Blue (1990), Bennett (1991) and Berle (1991) were working under the name of "green entrepreneurship", "green entrepreneurship" and "ecological entrepreneurship", researchers such as Anderson and Leal (1997), Isaak (1998) were working on eco entreneurship in the late 1990s. (Aykan, 2012). Being an eco entrepreneur depends on different ideas that can be transformed into practice. These ideas bring a privilege to the businesses established by eco entrepreneurs by bringing innovative solutions. Finding ideas is related to the creativity level of the individual. Those who have individual creativity can observe the problems in their environment better than other people and create ideas that bring practical solutions. Therefore, individual creativity emerges as a concept that should be examined and associated with eco-entrepreneurship (Aydın & Çakar, 2014). Figure 4.1: General Framework of Ecoentrepreneurship in the Scientific Field, Source: Aydın & Çakar, 2014: 81. The first studies on eco entrepreneurship started with the personal interests of individuals in environmental issues. The personal talents and creative behavior of eco entrepreneurs also guide their professional lives. For example, ClaussHipp (manufacturer of Hibb baby food), GottliebDuttweiler (founder of Migros), Ernest Pfenninger (head of Trisa) have demonstrated entrepreneurial behavior that integrates strong environmental and social values with the values of their business. From this point of view, Allen and Malin define eco entrepreneurs as creative people who consider environmental values as one of the basic components of the identity of the business and transform these values into opportunities that will provide competitive advantage to the business in the market. Eco entrepreneurs are considered as social change agents who feel obliged to apply environmental norms in their businesses, and who give a large place to the environment in their vision.

There are some common features of eco-entrepreneurial activities where differences between perception of reality and personal goals are perceived not as problems but as opportunities. These features can be listed as follows: Eco initiatives include an entrepreneurial path, shape or order.

All eco entrepreneurs take risk business activities and, like other entrepreneurs, look for opportunities for their business and realize these ideas, develop them and manage growth with appropriate resources. Eco entrepreneurs create a positive impact on the environment in all of their business activities for a more sustainable future. The goals of all eco entrepreneurs are common. Eco entrepreneurs' most important goals in their personal belief systems (values, goals) are the protection of the natural environment and the desire for a more sustainable future (Aykan, 2012).

Factors Affecting Eco entrepreneurship Businesses continue their activities in a dynamic environment. Within this dynamic structure, there are many factors ranging from the employees of the enterprise to its competitors, from customers to suppliers, to the characteristics of the entrepreneur. Similarly, there are many factors that affect, support or restrict eco entrepreneurship. In this context, factors affecting eco entrepreneurship are divided into two groups as internal and external factors. These factors are explained below (Aykan, 2012).

# Internal factors affecting eco-entrepreneurship

- A) Eco entrepreneur characteristics: Since he is the person who starts the enterprise, sees the opportunities and turns them into a business idea, and directs the employees and partly the managers, eco entrepreneurship is one of the main factors affecting it. Eco entrepreneurs; belief systems, past experiences, education, personal relationship networks and family and friend groups are among the important factors that affect their initiatives. It is observed that the entrepreneur takes initiative due to environmental effects such as autonomy, economic necessity, divorce as well as personal characteristics such as innovation, creativity, and extroversion.
- B) Sustainable values owned by the business: The damage done to nature over millions of years in the last 250 years has brought the concept of "ecojustice" to the agenda in favor of other living things. The understanding of sustainable development, which aims to develop by protecting the ecological rights of future generations, can be realized primarily by adopting environment-oriented values it is important for eco entrepreneurship activities that businesses understand sustainable development goals and want them to implement in their business activities by focusing the environment on efficiency and productivity studies and create an environmentalist belief system in their business. Eco entrepreneurship activities are expected to be more successful in enterprises dominated by sustainable values.
- C) Competitive advantage of environmentally friendly products: With the development of environmental awareness in the social sense, the interest of consumers in the environmental impact of the products they buy has increased. At the same time, the change in customer preferences brought along the increase in alternative products, and increased competition. At this point, eco entrepreneurs who are experts in identifying green business opportunities and transforming them into activities through entrepreneurship have important duties. The added value and competitive advantage created by environmentally friendly products represent new opportunities and new investment areas for eco-entrepreneurs.

# External factors affecting eco entrepreneurship

- A) Regulatory and supervisory bodies: With the natural environmental problems posing a threat to the world, the environmental issue has been obliged to be taken into consideration by businesses worldwide. The acceptance of environmental standards such as ISO 14000, EMAS, BS 7750 in Europe and all over the world is one of the reasons that lead businesses to act environmentally sensitive. Therefore, being present of and controlling environmental regulations and standards that businesses have to comply with affect the activities of ecoentrepreneurs.
- B) Environmentalist pressure groups: With the increase of environmental awareness in individuals and societies, non-governmental organizations and human rights associations become an element of pressure for businesses and entrepreneurs. The impacts of businesses on the environment, the obligation to explain their environmental performance and the effects of their negative consequences on businesses force entrepreneurs to think environmentally. The "management in the aquarium" approach, which involves businesses to present their activities more openly and transparently to the society, also affects eco entrepreneurship and entrepreneurs.
- C) Green customers: In line with the developing environmental awareness, especially the more environmentally sensitive pioneer consumers, such as purchasing quality and environmentally friendly products instead of consuming too much, preferring environmentally friendly packaged products, starting to think long-term from short-term thinking in consumption actions, turning to products with lower risk. social, environmentally sensitive and ethical behaviors also positively affect eco entrepreneurs.

- D) Green investors and green partnerships: It is important for eco entrepreneurs to establish business and partnerships with people and institutions that share common values and beliefs. This situation creates a different synergy for eco entrepreneurs.
- E) Policies and practices: The policies and practices of governments that support eco initiatives are important for eco entrepreneurs. Especially practices such as eco enterprise incentives and tax exemptions can give eco entrepreneurs a competitive advantage. Another important point in this regard is that enterprises establish environmental policies and programs. Environmental policies and programs can be made in many areas from energy and raw material saving to waste management. In this context, environmental policies and practices create the opportunity to monitor the results of eco entrepreneurship activities in a shorter time. As a result, eco entrepreneurship activities, in which many factors mentioned above are effective, came to the fore with the increase in environmental awareness in individuals and societies. Businesses have shifted their efforts to eco-entrepreneurship activities that regulate the eco system and prevent environmental problems, such as reducing waste and emissions, recycling waste, saving energy and natural resources.

## Types of eco entrepreneurship

It is seen that eco entrepreneurship practices, which have gained importance in recent years, have developed and expressed differently. Pastakia eco entrepreneurship activities; classifies as commercial and social eco entrepreneurship. While commercial eco entrepreneurs are defined as businesses that identify green business opportunities (environmentally friendly products and processes) and transform these opportunities into business activities, social eco entrepreneurs define businesses that support environmentally friendly products, technologies and ideas that are on the market or not. Volery classifies eco entrepreneurial businesses as environmentally friendly businesses and green entrepreneurs.

While environmentally sensitive entrepreneurial businesses refer to businesses that are environmentally aware but do not take part in the environmental market, green entrepreneurial businesses include businesses that are both environmentally sensitive and actively involved in the environmental market. Isaak, classifies eco entrepreneurial businesses; Green businesses (greenbusinesses) and green green (greenbusinesses) businesses into two groups. Green businesses; They are businesses that do not start their activities with an environmental focus, but try to transform their existing businesses into an environment-oriented one by recognizing the market, price and innovation advantages of the environment.

Green green businesses, on the other hand, refer to the enterprises in which the products and processes of the enterprises have been designed in an environmentally oriented manner since the establishment stage. With a different approach, Taylor and Walley divided eco-entrepreneurial businesses into four types, which they try to explain with economic orientation and sustainable orientation dimensions. Temporary entrepreneurs of this type refer to businesses that have made an accidental venture. Their businesses motivation factors are profit, not family, friends, personal relationships or values.

Opportunistic businesses appear to be profit-oriented businesses that see green opportunities or gaps. Ecoentrepreneurial businesses, expressed as unruly; are sustainability-oriented businesses that are flexible about structural changes. Sustainable values constitute the motivation source of these enterprises. On the other hand, visionary championships, are defined as transformational enterprises established with sustainability principles (Aykan, 2012).

## ROMANIA

In 2015, the green entrepreneurship culture in Arad region was less developed. The young and medium age farmers information degree about the national agricultural programs was low. They have minimum knowledge about: cross compliance, green infrastructure, development trends, high-performance technologies, forms of association, agricultural markets, sources of financing.

http://www.ceeweb.org/wp-content/uploads/2015/11/06-C.-A.J.-Arad-prez-Arad-29-30-oct-VS-ok.pdf

Since then the information trend in environment protection have increased, also though the projects developed in the area. For example, in the Project Stoparea extinderii speciilor invazive de plante în Parcul Natural Lunca Mureşului (Stopping the spread of invasive plant species in the Lunca Mureşului Natural Park) 2015-2017, financed by the European Economic Area (EEA) Financial Mechanism 2009-2014, in which the University was one of the partners, were made significant contributions to the public awareness of the negative effects generated by the spread of invasive plant species and the practice of intensive agriculture, to the detriment of sustainable one, quantitative and qualitative assessment of the negative effects on agro-forestry ecosystems and habitats of community interest generated by the spread of invasive plant species in this Park affected by the worrying spread of invasive plant species, especially Amorpha fruticose.

## https://sesil.eu/ro/proiectul/

Potential components of a green infrastructure could be represented by the: protected areas such as Natura 2000 sites (Câmpia Cermeiului, Câmpia Crișului Alb și Crișului Negru, Codru Mona, Dealul Mocrei-Rovina-Ineu, Defileul Mureșului inferior, Dealurile Lipovei, Drocea-Zărand, Hunedoara Timișană, Lunca Mureșului inferior, Mlaștina Satchinez, Nădab-Socodor-Nădab, all presented in the Arad county.

# https://ro.wikipedia.org/wiki/Lista siturilor Natura 2000 %C3%AEn Rom%C3%A2nia

Along with these can also be mentioned: the healthy ecosystems and naturally valuable areas outside protected areas such as floodplains, wetlands, natural forests, natural features of the landscape such as small streams, strips of forest, hedges, which can act as corridors ecological or wildlife refuges, restored habitat strips that were created with this in mind certain species, for example to contribute to expansion the size of a protected area, when feeding areas are increased, by growth or resting for those species and to help them in migration/dispersion process.





# C) ANNEXES

1) Germany



# "Green Thinking Entrepreneur Youth" 2019-3-TR01-KA205-080177 Intellectual Output 1 (IO1): Environmental-climate sensitivity analysis reports – Annex Germany –

## CONTENT

A) Regular representative surveys on the environmental awareness of the German population and youth

B) Junior companies (student companies)

C) Environmental education and education for sustainable development - basic considerations

## A) Regular representative surveys on the environmental awareness of the german population and youth

Since 1996, a representative survey on environmental awareness in Germany has been conducted every two years. The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and the Federal Environmental Agency (UBA) are responsible for this. In this study, environmental attitudes and behavior are surveyed as part of social developments, so to speak. These are an important basis for the shaping of environmental policy and environmental communication and are thus also significant for the significance of environmental education within the education system as a whole.

For the representative survey, two survey waves were conducted, each with around 2000 respondents, and a pretest with 500 participants. The survey was conducted by the field institute Forsa using a standardized online questionnaire.

For the year 2019, an additional interim survey on central time series questions was conducted with a representative sample of about 2,000 persons.

Within the framework of the Environmental Awareness Study 2018, a measuring instrument was developed that depicts three central dimensions of environmental awareness: Environmental effect, environmental cognition and environmental behavior – i.e. emotional involvement, rational assessment and active action. With this measuring instrument, environmental awareness can in future be expressed in compact indicators and uniformly surveyed.

## Some results at a glance

Environmental and climate protection is a priority challenge for people (68%). In comparison with previous studies, it can be seen that the importance in the eyes of the population has increased. The prioritisation of other challenges has also changed significantly. In 2016, wars and terrorism, immigration and migration, crime and public security and social justice were named as the most important problems. In 2019, on the other hand, respondents rated the state of the education system (65%) and environmental and climate protection as the most important challenges, in addition to social justice (63%). Thus, in 2019 a total of 76% of those surveyed rated the environmental quality in their own city or municipality as very good or fairly good, compared with 60% for Germany as a whole. The assessment of environmental quality is particularly divergent between Germany and abroad. For example, only 7%

rate global environmental quality as good, while 93% rate it as "rather poor" or "poor". The commitment of key players to environmental and climate protection was rated significantly worse in 2018 and 2019 than in previous surveys. In 2019, only 18% of those surveyed thought that the German government was doing enough for environmental and climate protection. 11% think that industry is doing enough, and 27% of those surveyed think that citizens themselves are doing enough to protect the environment.

60% of those surveyed agree that energy system transformation is helping to reduce greenhouse gas emissions in Germany. Around 90% of those surveyed think it is okay for energy system transformation to restructure certain industries, such as coal mining. About the same number are in favour of creating new jobs in regions that would be affected by a coal phase-out. According to the respondents, the federal and state governments, each and every individual and energy-intensive industrial companies can make the greatest contribution to making the energy system transformation in Germany a success.

The central motives for using public transport in everyday life are, at 55% in each case, to be able to use the journey time sensibly and thus do something for environmental and climate protection. Around 80 percent of those surveyed said that the central motives for using the bicycle for everyday journeys were fun and health aspects. For two thirds, low costs and climate and environmental protection are the motives.

Three reasons for using the car for everyday journeys are cited by a good 60% of those surveyed:

- The fact that the car can be used to combine several everyday journeys;
- That destinations are difficult to reach by other means of transport;
- And that using the car saves time.

38% of respondents said that they currently purchase green electricity.

51% of respondents said that they have always chosen particularly energy-efficient appliances when buying household appliances. 81% of 14-22 year olds said that environmental and climate protection is very important, compared to 67% in the sample of 23 years and older.

# Situation analysis and environmental awareness of young people

- Before we turn to the question of the state of the art in environmental education, it seems important to have
  more precise knowledge or assumptions about how young people in general think about the environment,
  climate and nature and about their opinions about technology, society and politics. This leads to assessments of
  their own ability to act and their commitment to environmental protection. These options for action are
  influenced in particular by regional, national or European framework conditions and influencing factors. These
  include the often evoked "end-time mood", after which global warming can no longer be stopped (cf. Geulen:
  Jenseits der Hoffnung), other problems such as the refugee movement and migration, the corona epidemic and
  digitalisation. Triggered by Greta Thunberg's speech at COP24 in Katowice at the end of 2018 and the
  subsequent student movement "Fridays for Future", the youth made themselves heard across national borders
  and demonstrated against the general climate ignorance.
- In a study carried out in 2019, 1,000 young people aged 14 22 years were asked (online) on a representative basis throughout Germany what they think about the environment and the climate.
- Environmental and climate protection is therefore the most important topic for young people:
  - 45% of respondents say it is very important, 33% say it is important;
  - Just behind with 39% (very important) and 41% (important) are the state of the education system and "social justice".
- Attitudes towards social and political issues are very strong throughout. More than three-quarters of the interviewees have a very high regard for democracy, elections and the European Union. This also leads to high expectations of politicians to fulfil their duties and obligations towards environmental protection:
  - 80% of respondents know "Fridays for Future";
  - And a quarter have already been on strike for the climate on a Friday;
  - Actions for the environment support more than half of them.



• Who are the most important actors in Germany who should do something for environmental protection and the climate? The three most important ones should be chosen from a list of 9:

Actors	%
Each individual as an actor	61%
Industry	50%
Federal government	48%
Cities	31%
Media	26%
Schools	22%
Environmental associations	17%
Science	13%

But what do young people say when they are asked "Who is doing enough for environmental or climate protection? The picture is reversed: Enough or rather enough are doing something for environmental and climate protection.

Actors	%
Environmental organisations	70%
Science	50%
Schools	41%
Media	33%
Federal Government	22%
Cities	32%
Individuals	21%
Industry	15%

It is also important to ask which measures appear to be most important:

Measures		
Financial support for environmentally friendly products and behaviour	52%	
Making the polluter pay	46%	
Promotion of new technologies and research		
Information and education		
Prohibitions and regulations		
Support for low-income groups		
Higher taxation of climate-damaging products		

The study also makes it clear that ecological and social concerns are closely related from the young people's point of view. Failure to take environmental and climate protection into account may lead to a split in society. Future generations will be burdened, poorer people cannot afford environmentally friendly products, a quarter of the young people say that other countries and global interrelationships must also be perceived and thus causes of flight must be fought. Are there more opportunities or risks for the environment in view of digitization? The digitization of almost all areas of life is indispensable and changes all areas of life. There is no clear answer to this question from young people. Environmental impacts could arise, for example, from online shopping and social alienation. In order to minimize the negative effects on the environment and climate, it seems to be an important task for politics to shape digitization.

Source: Future? Young people ask! Environment, climate, politics, commitment - what moves young people. A study by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety and the Federal Environment Agency. Status: January 2020

The question to the partners in the Erasmus+ project is: are there similar studies in the individual countries or are there Europe-wide studies that provide information on the level of environmental awareness, especially among young people.

A further question is: What significant contribution does education actually make to long-term awareness and behavior for environmental protection and "sustainable development"?

## **Green Management and Green Entrepreneurship**

Fundamental reflection on new paradigms in considering (green) companies and green management as an integral part of progressive environmental education and education for sustainable development. What is Green Management? First, before we explain what proactive, aggressive "Green-Management" is, or what "management for sustainable development" could mean and represents, and which competences are required, it is appropriate to note what "high quality management" is. Let us revisit management concepts from the mid 80ies developed in the fields of humanistic and systemic psychology (Rogers) and the paradigm shift as described by Capra in his book The Turning Point: Science, Society, and the Rising Culture.

By "Good management" we refer to any kind of leadership on any level or sector, irrespective of whether leadership is applied in businesses, scientific projects, government or education and training at schools and university. Here we speak about "Quality Management", Good Governance, or about "good work".

One example: The highest quality properly exercised craftsmanship is considered a prerequisite for economically viable, ecologically successful and socially just actions in a global world.

When a construction worker or an architect neglects or ignores the laws of building physics or of the laws of static stability, thermal insulation or moisture protection knowingly or unknowingly (for example, by sloppiness) serious structural damage, even early collapse of the building can be the result. Accordingly such forms of "good practice and craftsmanship" can be also applied to the activities of teaching, research, leadership, governance, etc.. (Richard Sennett). The radical paradigm shift in science is another precursor of today's Green Management. These new paradigms focus on interdisciplinarity, holism, increasing complexity, globalization, process and network-relatedness. Additional factors were the growing shortage of the resources, time, money, raw materials. The postulate of holism, for example in pedagogy, but also in the management, has significant consequences, because the division into school subjects is obsolete if you structure it rigidly and arbitrarily by content as situations you face in life cannot be treated appropriately. Instead learning preferably takes place in more or less complex projects und coherent areas of sense-making. This results in an appreciation of learning as part of the overall cognitive, affective, emotional and psychomotor areas of learning, as part of an all-encompassing personal development. A building or living-quarter is in this way understood as a socio-technical, ecological system (oikos) which has to be "green" to a large degree already for conventional professional reasons.

The shift away from thinking in linear structures and hierarchies will cause the teachers to be no longer just teachers or pupils, but someone who is in a dialogue, who will be taught while he is teaching and vice versa. So, they all take part together and become responsible for a process in which they grow (P. Freire).

Learning takes on a process-character through project-organization, decentralized information-gathering and decision-making as well as through feedback loops. The possibility and need to transfer these insights to create a qualitatively new and higher quality management is obvious. Organizations with hierarchical and much too specialized work-processes have proven to be inefficient, too bureaucratic and demotivating. A management of self-organizing process chains, of flexible projects, can more easily adapt to t changes which take place with accelerating pace. The information needs to be delivered to where it is needed and should not be delayed, obstructed or distorted by hierarchies.

From the metaphor of the network arises a twofold consequence, both on the level of content as well as at the level of acquisition of knowledge. Contents from various disciplines have to be connected and related in a nonlinear and network-like format. Learning processes must be designed in a way that allows and expedites interrelated establishment of cross-disciplinary knowledge and encourages action. Network organizations are characterized by

flat hierarchies, a high degree of local autonomy, self-organization and personal responsibility. These results, for example, in semi-autonomous work groups, manufacturing cells and flexible adaptation to local circumstances and changes in the environment (Doppler and Lauterburg).

In essence, we are faced with the need of a radical structural transition of organizations and their management. Because network organization in nature has proven clearly superior and has evolved over millions of years, the network model could very well help us make sense of nature "green management", and enable insight for why human organizations should adopt these principles.

## **Change Management**

The above just briefly outlined paradigm shift in the field of organizing and teaching, which, because it is largely transferred from the model of nature, can be understood as "Green Management" and leads to a new understanding of management, a "management of change" or change management.

It can be said that nothing is as sure to be happening as change. Good Management or Green Management is primarily a management which masters continuous and increasingly rapid change. Managements which are only anxious to secure their own personal careers and to reinforce and make permanent the status-quo keep people from making innovative contributions and impede rather than promote adaption of real futures.

There is little contribution to the development of functional teams and motivation and identity-building of employees. These managers miss their mission and fail at tasks to design and manage change.

## **New Green Deal**

With an "ecologisation" and globalization of society and economy, with the new overall concept of "sustainable development" a new creative power is emerging which reaches beyond the challenges of conventional organizations and management. The "New Green Deal" goes hand in hand with an upheaval (wrap) of the society towards radical energy and resource efficiency, renewable energy and renewable resources, towards an integrated product policy, to new environmental and health-conscious consumption patterns, towards a circular flow recycling economy (cradle to cradle), towards environmentally sensitive tourism (gentle tourism) etc. The service sector is expanding, the decentralized structures (units) are strengthened, the above cited Culture of Maintenance is gaining importance, the added value remains in the region. As a net-gain more jobs will be created, more than are lost by the revitalization and renaturization of the old dismantled economy.

The economic sector and management react upon these initially threatening challenges with the following patterns of reaction, although a wealth of technical, regulatory, market, awareness and fiscal measures point towards paths of sustainable business:

# 1. Defensive-negative patterns of management:

- Delay, refusal, failure to satisfy regulatory requirements;
- Complaints about government regulations and bureaucracy (red tape);
- Sanctions must not be feared;
- Balancing between any penalties and saving by non-compliance;
- Displacement and denial of the ecological and social consequences;
- A reference to the "others" and the "public";
- The externalization of costs.

## 2. Reactive, rather defensive behavior:

- Action under performance and deadline pressure;
- Meeting the minimum requirements;
- Short-term response in case of need;
- Cure of only symptoms;

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- No forward-looking and planning;
- Economization of ecology through savings;
- End-of-the-pipe.

# 3. Offensive affirmative, pro-sustainable patterns of behavior (Green Management):

- Use all possible advantages of sustainable behavior and action;
- Innovative, qualitative sophisticated and demanding products and services;
- Voluntary participation in sustainability management and labels;
- Integration of sustainability into the corporate culture;
- Exceeding the targets of current environmental compliance requirements;
- Future-oriented qualification understanding;
- Stakeholder and public participation and exercising influence;
- Pioneering role for future generations;
- Sustainability-related education and training of staff.

# **Good and Green Management**

From my point of view two things come together, which ideally complement each other: Good management described in terms of new management concepts and proactive, sustainable management (Green Management). The first question is how, on the basis of a (knowingly or unknowingly conscious or ignorant "Bad Management" with a defensive attitude, can a transformation towards an offensive-oriented green management be initialized. Thus, changes in behavior patterns affected. Here the quote from Thorndike "As much as 95% of what we do each day is done from habit". We need to take into account that changes in the social fabric result from diverging interests and ideological debates/discourses.

Behind the obvious scene, in hindsight, we find forces of insistence and adaption which are governed by emotions and are often on a subliminal level. In all cases, changes take place. A development which is due, will prevail. The pressure is increased and the price to be paid for the necessary changes increases.

Training Concepts for Green Management therefore have little chance if they are isolated from the situation and context, they definitely need to be part of a much more holistic, integrated corporate culture and its 'sustainable organizational development", because the "habits" of the company have to be included in form of a learning organization. Success will also depend on the externally set incentives and framework conditions – and what forms of control or sanction are available.

A second question remains: How can we in the education at universities or in vocational training (in Germany a socalled dual system of vocational training) raise the necessary awareness and develop the necessary skills and competences for Green Management? The answer is also difficult.

## Soft skills, good for all modern organizations, are:

- Strategic competence, i.e. complex understanding of systemic relationships, identifying the dynamics of change and developing from there alternative paths and options;
- Social competence, dealing with people openly and easy without creating complicated circumstances, to motivate them and have them participate in teams;
- Process competences, i.e. the ability to make decisions and act on the basis of incomplete information and in view of inadequate circumstances, like missing capabilities in the environment and of the co-workers;
- Ability to develop and maintain empathy, attentive listening, openness, honesty, self-confidence, courage and bravery;
- Chaos competence, ability to cope with increasing complexity of conflicts, crises and contradictions;
- Personal competence, selections of key personnel, allies and lead-persons and opinion leaders.



## Skills with relevance for green management in a more closely connected, stricter sense, are:

- Selection and use of sustainability indicators to assess the operational performance;
- Knowledge and reflection of various quality and sustainability management systems for enterprises;
- Ability to sustainability communication both internally and externally, e.g. with stakeholders, design and publication of sustainability reports;
- Product-line analysis for environmental and social evaluations, e.g. supplier or subcontractor products and concepts of recycling and disposal;
- Resource and material-flow management as part of corporate and intercompany cross plant efficiency strategies.

Please note that the terms of competences, capacities, skills and capabilities "own" very different meanings and are used in different ways in German and English and that therefore some more attention should be given to the above text to make proper sense. Some work has been invested in the context of Gestaltungs Competences (Design, Gestalt or Futures Competences) in Germany in the Context of Education for Sustainable Development which needs to be reported and included at another place.

# Competence Acquisition for Green Management an Entrepreneurship

There are now a number of master's degrees in the field of sustainability and quality management, there are a number of environmental management tools which can be applied to enterprises and implemented in towards and in the sense of sustainable and sustained organizational learning organization, namely EFQM, TQM, or CSR. This needs further elaboration at another place. It would be a separate article to compare and evaluate the different approaches in higher education and more general in the field of life-long learning.

In the field of vocational training, I have developed and tested a concept under the name "sustainable junior companies" which helps young people in their own miniature shops and plants, but under the umbrella and auspices of an existing sustainability minded company gain action-oriented insight into "entrepreneurial thinking and action for a sustainable economy" (Entrepreneurship) and to acquire relevant competencies: vg. www.inbak.de).

http://www.inbak.de/index.php?article\_id=24&clang=0

The concept of sustainable junior companies or sustainable pupil companies is an educational, didactic approach based on adventure and experiential learning and the principle of "complete-cycle action", which includes self-informing personal investigations, planning, decision-making, implementation and evaluation. Those in the team and in real project situations who have experienced and reflected upon "Green Management" are more likely to be able to draw on transferable competences than someone who, for example, has only acquired abstract and nomologic knowledge.

## References

- Helmut Brentel, Herbert Klemisch, Holger Rohn (Hrsg.): Lernendes Unternehmen. Konzepte und Instrumente für eine zukunftsfähige Unternehmens- und Organisationsentwicklung. Wiesbaden: Westdeutscher Verlag, 2003
- Fritz Brickwedde und Ulrike Peters: Umweltkommunikation vom Wissen zum Handeln. 7. Internationale Sommerakademie St. Marienthal. Berlin: Erich Schmidt 2002
- Gerhard de Haan u.a.: Nachhaltigkeit und Gerechtigkeit. Grundlagen und schulpraktische Konsequenzen. Berlin, Heidelberg: Springer, 2008
- Klaus Doppler und Christoph Lauterburg: Change Management. Den Unternehmenswandel gestalten. Frankfurt am Main: Campus, 1994
- Adrienne Goehler: Verflüssigungen. Wege und Umwege vom Sozialstaat zur Kulturgesellschaft. Frankfurt am Main: Campus, 2006



- Karl Otto Henseling: Am Ende des fossilen Zeitalters. Alternativen zum Raubbau an den natürlichen Lebensgrundlagen. München: oekom, 2008
- Hannes Koch: Soziale Kapitalisten. Vorbilder für eine gerechte Wirtschaft. Berlin: Rotbuch, 2007
- Jeremy Rifkin: Access. Das Verschwinden des Eigentums. Warum wir weniger besitzen und mehr ausgeben werden. Frankfurt am Main: Campus, 2000
- Richard Sennett: Handwerk. Berlin 2008
- Richard H. Thaler und Cass R. Sunstein's: Nudge. Improving decisions about health, wealth und happiness. London: Pinguin Books, 2008
- Ernst Tiemeyer und Karls Wilbers: Berufliche Bildung für nachhaltiges Wirtschaften. Konzepte-Curricula-Methoden-Beispiele. Bielefeld: W. Bertelsmann 2006
- B) Junior companies (student companies) a method for acquiring skills for sustainable management, for sustainable business creation and entrepreneurial thinking and acting.

This detailed description, including the theoretical background, is intended to highlight the aspects of entrepreneurial activity of young people. Against this background, the Erasmus+ project proposes to test the concept of "sustainable junior enterprise".

## 1. Which developments and which megatrends does the project "Sustainable Junior Companies" address?

More and more people want the satisfaction of their needs, especially in the areas of housing, energy, nutrition, health, mobility, information (key-points), to be oriented towards a lifestyle that is in harmony with what we call "sustainable development" today. In the face of the deformations of an "unbridled, global turbo-capitalism", however, it is initially a minority that demands e.g. organic products, renewable energies, fair trade products, soft travel and discovers more quality of life in lower consumption (How much is enough?). LoHaS (Lifestyle of Health and Sustainability) refers to a demanding, environmentally conscious, affluent, pleasure-oriented consumer elite.

Similarly, there is still a minority of companies that develop and produce sustainable products and services in this sense or that orientate their corporate self-image holistically towards the model of sustainability. The "social capitalists" portrayed by Hannes Koch (including Otto, Hoppe-Ritter, Kramer, Faber-Castell) are probably a notable exception. Technical, societal or social innovations that lead to fundamental change usually take place in secret, in contradiction to the prevailing opinion. They are ridiculed and fought against. At first there can be no talk of a megatrend of sustainable development, especially since contradictions and inconsistencies as part of social reality constantly call the trend into question. Nevertheless, the "environmental economy" is recording a great deal of growth.

People always speak of a sustainably producing avant-garde of companies and an avant-garde of sustainable consumers. The Unternehmensverband der grünen Wirtschaft e.V. organises companies with a declared ecological and social profile. Since its foundation in 1992, it now has around 320 member companies.

## https://www.unternehmensgruen.org/

For these entrepreneurs, but also for the training of the next generation, the following questions are in the foreground:

- Which competences are required?
- What experience does someone need to have in order to succeed as a "sustainable entrepreneur"?
- What contribution can vocational education and training make to "entrepreneurial thinking and acting of sustainable management"?
- What contribution does the "junior company" method make to increasing self-employment?
- How can business start-ups be promoted in the sustainable economy?
- Will it be possible to find answers to these questions in the conventional VET system, or are new methods and structures needed?

The area of competence "sustainable management" has been virtually ignored in vocational training to date. Entrepreneurial activity" is also neglected in training, because training is primarily aimed at entrepreneurs in



dependent employment. In addition to the substantive question "What is sustainable management?", the main issue is which method is best suited to acquire competences for "entrepreneurial thinking and acting for sustainable management". In doing so, a pedagogical principle from primeval times (Johann Heinrich Pestalozzi 1746-1827) is taken up, which was later developed further as a precursor of the work and production schools, especially by Georg Kerschensteiner (1854 - 1932) (keyword: from book school to work school). Then there is the junior company developed in the 1980s by Professor Wolfgang Fix and Konrad Kutt, which sees itself as an intersection of experiential learning, learning in real projects, wholeness and independence. Self-discovery of knowledge, curiosity, courage and experimentation are among the principles that Reinhard Kahl also vividly highlights in the documentary film "Children". The options for sustainability and sustainable business start-ups are explicitly included.

While some of the economic and social elites make the headlines through self-service, corruption and fraud, there are others who use their knowledge and skills directly for the benefit of the learners, the children, the weak, the trainees and the young generation. What conductor Simon Rattle has done for music education and self-discipline of young people; sustainable entrepreneurs should do for sustainable competence development.

This is also the case in the project presented here: the junior companies are founded in socially and ecologically committed, successful enterprises and are oriented towards the sustainable profile of the products and processes. In the USA there have been more than 8,000 so-called junior achievement companies in high schools for many years, although they do not yet teach environmental awareness.

# 2. What concrete contribution will be made, thus making it "instigating success model"?

It is no longer unusual for young people to do research. The projects "Jugend denkt Zukunft" and "50 Drafts of Young Scientists for Tomorrow's World" show how "unspent and unconventional thinking" can be encouraged. Together with trainees or pupils, sustainable product and service ideas are developed in line with the training company. While apprenticeship training often empowers them to simply do things right, these junior companies are mainly concerned with doing the right things, i.e. sustainable things. New points of view are often based on amazingly simple means, but naturally also require the use of modern technologies. The project Sustainable Junior Companies invites trainees to look to the future and to work out sustainable problem-solving proposals together with "their" training companies and to bring them to market maturity with a business plan. They are measured by their feasibility in the here and now. In contrast to "only" thinking about the future, the marketability of the future is to be enforced here. This does not work without theory. In the course of six two-day accompanying workshops, the juniors acquire basic, specialist and reflective knowledge on "sustainable management". Both: practical work in the junior company and the workshops form the basis for a "sustainable management" certificate. The history of the junior companies for 30 years shows the methodology as an instigating model for success. It has developed in many ways, e.g. to ecologically oriented, school-based, virtual and now also sustainable junior companies. At least in the context in which the sustainable business elite is committed to this model in the interest of securing young talent, it will have an instigating character.

## 3. How do self-employment and sustainable development go together?

Modern vocational education and training aims at vocational action competence, i.e. the independent handling of more or less complex tasks. For this purpose, the concept of "complete action" was introduced years ago as a quality feature. The complete action includes the independently inform, plan, decide, carry out, control and evaluate. Within the framework of the project presented, the "Competence Independence" is related to the following life and work situations:

- Coping with one's own life economy, household, housing;
- Independence in the "marketing" of one's own manpower one also speaks of a "manpower entrepreneur;
- Intrapreneurship;
- Self-employment in the sense of setting up a business (ecopreneurs, socialpreneure, culturepreneure) entrepreneurship;

- Coping with changes in life and professional biography: change of work, non-work, further education, sabbatical, family phase.

Sustainable VET geared to emancipation and vocational autonomy must also take into account the ability to shape everyday life and the economy of life, the social space of the neighborhood and the discontinuity of change. Life does not at all consist only of work from continuous permanent employment. The Junior Company project can provide answers to this question through its experience-oriented approach, because the skills acquired there generally serve to be sustainably entrepreneurially active in the sectors and living conditions mentioned above.

# 4. How the project can support the acquisition of producer responsibility be implemented?

In the junior company project, trainees or students take on responsibility for future-proof products and production processes. With the legal institution of "product liability" and the polluter-pays principle, producer liability has long been a formal component of economic education. However, the concept of producer responsibility does not go far enough, unless it includes responsibility for the entire value-added chain, i.e. responsibility for supplier products, the use phase at the user or customer. It finally ends with responsibility for the post-use phase. If one thinks from the end, i.e. the benefit that the product is intended to provide, then it seems inevitable to combine producer responsibility with consumer responsibility. The keyword is "user integration". This means, for example, that customers or users are involved in product development and trained or technically accompanied in the optimization of use. Concepts such as consumer protection and "sustainable consumption" are integrated into junior company training, as it were, e.g. through participation and education. This also fulfils the dual role of trainees/students: they are also "producers", either as employees or self-employed. And they are consumers.

# 5. How it can be transmitted to all and what are the prerequisites for this?

"Broadcast" is often accompanied by a diffuse illusion. However, innovations of the kind we are talking about here have a hard time making it broadly accepted in the first stage. They violate - necessarily - against social conventions, because with the economic theory approach of sustainability and the vocational training, methodological approach, in the view of structurally conservative gatekeepers, they are often outside conventional structures (e.g. the vocational training system). Nevertheless, the qualitative power of the factual elements of the success model can have a pull effect on other companies. Of course, all tried and tested transfer strategies are used. The main focus is on the civil society commitment of the sustainable economy. It is a central prerequisite for success that the business and cultural elites implement the model of the sustainable junior company in their interest and to use the promotion of youth and sustainable competences.

# C) Environmental education and education for sustainable development - basic considerations

The protection of nature and the environment is an ethical, moral and thought-provoking issue for humanity. It is about nothing less than the preservation of the foundations of life and creation in general and the ability to act together on a global scale and in harmony with nature. This action should be economically sustainable, future-oriented and fair on a global scale and ensure prosperity for all. The motto is: Do not live today at the expense of tomorrow and here and not at the expense of other regions. This applies above all to air, soil, water, forests and vegetation, biodiversity and fossil fuels. The situation becomes critical and problematic when resources are overused and over-exploited and exploited for economic self-interest. An example from the 17th century is the threatened exploitation and loss of the forest because too much wood was needed for the construction of (war) ships, mining and heating (charcoal). Initially, the deforestation was able to cover the demand. The cameralist and miner from Saxony, Carl von Carlowitz, realised that it could not go on like this. He travelled through Europe and looked around in England and France, among others at Jean-Baptist Colbert. Back in Saxony he wrote a far-reaching regulation for forestry, which read: "Only as many trees may be felled as will grow back. From then on it was the principle of "sustainable forest management" and today is seen as the origin of sustainable thinking for all areas. The conclusion is that we recognize that environmental protection and environmental education has arisen from



the recognition of an emergency, a crisis, an accident or even a disaster. This was followed by an insight into action directed towards the future and care. In this context, reference can also be made to the parallel development of preventive accident protection at work, particularly in the industrial, mining, construction, chemical and transport sectors, etc. Environmental education and environmental awareness as well as behavior related to it are always embedded in a network of framework conditions of social, technical-economic and political developments and the resulting interactions. This necessarily leads to a relativization of the importance and influence of environmental education, because it only becomes significant when the pressure from the other sectors is great enough. Furthermore, the need for appropriately trained personnel must be articulated. This becomes particularly clear in vocational training. It should not be forgotten that education and awareness can exert pressure, for example on political actors. If pupils know something and are convinced, they also support environmental protection and corresponding regulations on the part of the government. It is often only the tip of a movement that gets the ball rolling.



## Integrative mediation

At the level of all 16 countries in Germany, the "Conference of Ministers of Education" already adopted a recommendation on "Education for Sustainable Development in Schools" in 2007, the aim of which is to promote young people's understanding of the complex interrelationships between globalization, economic development, consumption, environmental pollution, population development, health and social conditions in the classroom.

On the other hand, the Conference of Education Ministers presented a comprehensive "Orientation Framework for the Learning Area of Global Development", which was drawn up jointly with the Federal Ministry for Economic Cooperation and Development and can also be used as a basis for developing curricula, making concrete recommendations and providing material for lessons. The focus here is on overcoming the challenges of living in the "One World", preserving the environment everywhere in the world, combating poverty, cohesion and solidarity and economic development, particularly in the so-called "developing countries".

In school education, the main aim is to teach environmental aspects in an integrated and comprehensive way, as a key qualification, as it were. They then become part of the traditional and relevant "subjects", i.e. part of geography, physics, biology, natural history, history, mathematics or social studies and politics. The concrete implementation is difficult to quantify. Here too, what we said in the chapter on "Green Management" applies. The integrative teaching of environmental education depends on the teachers' ability to think cross-curricular and



interdisciplinarity and to design the lessons methodically accordingly. This includes, for example, exploratory learning, reflexivity, curiosity, commitment and democratic structures. The teacher's qualifications are only one side of the equation, the other refers to the school as an organization with its culture, equipment standards and the time available.

As shown in the above chart, we in Germany have a politically agreed orientation framework which is intended to provide conceptual support for the educational administration and curriculum development of the Länder in Germany, teacher training at all levels, textbook authors and publishers of school materials. It provides a guideline for the development of school profiles and the involvement of external school competence from the governmental and non-governmental sector.

# **Different responsibilities**

Environmental education and global learning have essentially the same goal, so that additional and complementary requirements are placed on schools in Germany. However, these are represented by different responsibilities and ministries. The "fractionation" of political and bureaucratic responsibilities goes much further, depending on the specialist topics with which "environment" and "sustainability" are associated, such as economics, energy, agriculture, health or tourism. All of them claim that their important topics are also dealt with in class. This is why there is often competition for the limited time available within formal education in schools and the informal educational opportunities that come to schools or pupils from outside.

# Some indications of the quantitative extent within formal education:

In 2019/20 there will be about 825 general education schools in Berlin. Of these are:

- 364 primary schools;
- 127 Integrated secondary schools;
- 91 grammar schools, of which 53 are so-called "grundständige Gymnasium" (from the 5th class onwards);
- 53 special schools.

Each year we have 28,000 school-leavers from general education schools:

- 46% of school leavers acquire the general qualification for university entrance;
- 32% of school leavers obtain the intermediate school leaving certificate;
- 8% leave schools without a school leaving certificate.

Number of teachers: 32,000 Number of pupils: 366,000

It is not possible to quantify or grade the environmental knowledge and skills acquired in these schools: As there is no school subject "environment", no grade can be given.

# Vocational schools:

In Berlin there are 78,000 vocational school students in 48 vocational schools (upper secondary centres). 51% of these in pupils in vocational schools are apprentices in the dual system (company and school). We therefore have 38,000 trainees in 5,400 training companies. We will deal with this separately in connection with the topic of "vocational training".

- 39% of pupils will be in the "health and social services" sector;
- 30% of pupils are trained in industrial engineering and design and;
- 27% in business, administration, law trained.

There are about 4,000 teachers at vocational schools.



# Informal education in out-of-school organisations

In addition to formal education for environmental awareness, environmental competence and sustainable entrepreneurial action in schools, as prescribed in the framework curricula, there are a large number of environmental organisations, environmental associations, environmental institutions, most of which have developed "freelance" offers for environmental education, environmental counselling and active participation in environmental measures. These are often "places of action" with a high degree of illustrative value, such as:

- Gardening schools: <u>http://www.gartenarbeitsschule.de/</u>
- Schools of forest pedagogy, forestry, forest museums <a href="https://www.wald.de/waldpaedagogik-ausbildung/">https://www.wald.de/waldpaedagogik-ausbildung/</a>
- Former industrial plants, waterworks, breweries: <u>https://www.oekowerk.de/</u>
- Museums: Museum of Transport and Technology: <u>https://technikmuseum.berlin/</u>
- Youth leisure centres, for example: <u>https://fez-berlin.de/</u>
- So-called green learning locations: <u>https://www.stiftung-naturschutz.de/service/gruene-lernorte-in-berlin</u>
- Various events:
  - <u>https://gruen-berlin.de/service/veranstaltungskalender</u>
  - https://www.bildung-trifft-entwicklung.de/de/globales-lernen.html
- The Development Information and Education Centre: <u>https://www.epiz-berlin.de/</u>
- Renewable energy:
  - https://www.dgs-berlin.de/de/projekte/bundesweitaktuell/solarzentrum-berlin.html
    - http://www.solarzentrum-mv.de/preview/termine/aktu\_term.html
- Energy measuring instruments in the botany school/BNE-Zentrum. Schools can borrow class size energy meters (25 pieces) from the ESD Centre: <a href="https://bnezentrum.wordpress.com/">https://bnezentrum.wordpress.com/</a>
- Climate education: <u>https://klimamacher.berlin/</u>
- Independent Institute for Environmental Issues: <u>https://www.ufu.de/projekt/klimamacher/</u>
- Education Portal: Potsdam Institute for Climate Research. The scenarios that can be called up provide the opportunity to make climatic changes perceptible to pupils: <a href="https://www.pik-potsdam.de/forschungss/klimaresilienz">www.pik-potsdam.de/forschungss/klimaresilienz</a>
- Film collection Scientists 4 Future. Available topics: 24 Scientists-for-Future facts and planetary boundaries, climate change, biodiversity, sustainable development: https://www.globaleslernen.de/de/fokusthemen/fokus-klimawandel
- Within the framework of the UN Decade of Education for Sustainable Development and the subsequent 2005 2014 and the subsequent "World Programme of Action on ESD", good practice examples from all areas of education were recruited and awarded. Nationwide, around 3,000 examples were officially recognized.
- Universities offer environmental education courses: <u>http://www.green-in-berlin.de/green-jobs/grune-studiengange-in-und-um-berlin/</u>

The range of materials, media, film collections, films, workshops, exhibitions in Berlin alone is very large. This is not to be included in this compilation. The youth is almost overwhelmed by it. What is derived from this for daily activities is another question. The College for Management and Design of Sustainable Development also offers media materials:

# http://kmgne.de/

Quantifiable data on the participation of young people in environmental education measures are not available and would probably not be helpful. Each of these selected "good practice agencies" has a wealth of offers not only for young people. These programs cannot be described in detail here. During a visit to Berlin, one could visit and get to know selected institutions.

# Awards

Within the framework of the Decade of Education for Sustainable Development (2005 - 2014) organized by the German UNESCO, almost 3,000 environmental education projects in Germany received awards, while in Berlin the number of projects awarded was 180. This is a comprehensive collection of good practice examples from all areas.



This UN Decade generated a great deal of motivation and a spirit of optimism for environmental education in Germany because it involved the most important ministries, trade associations, trade unions and organisations. Participation was considered a prerequisite for successful environmental education.

In the long term, the World Action Programme (2015-2019) aims to anchor environmental education and education for sustainable development in the education system:

# https://www.bne-portal.de/de/nationaler-aktionsplan-1702.html

Examples of good practice are role models and have an impact by showing how ESD can successfully move from project to structure. Already during the UN Decade, projects, measures and local authorities were awarded with great success by the German Commission for UNESCO (DUK).

The criteria for awarding the prizes were extensively developed further in WAP ESD. Since 2016, the Ministry of Education has been awarding the German UNESCO in the categories "learning locations", "networks" and "municipalities". Their hallmark: a particularly successful implementation and long-term anchoring of ESD. At the Agenda Congress 2016, 65 municipalities, learning locations and networks were honored. The awardees make an outstanding contribution to the implementation of the United Nations' Agenda 2030 and the WAP ESD in Germany. Among them is the network of sustainable book boxes developed by INBAK.

A summary of these and other projects can be found here:

https://www.umweltbildung-berlin.de/projekte-wettbewerbe/

The Council for Sustainable Development (<u>https://www.nachhaltigkeitsrat.de/</u>) organizes an annual competition, which is integrative and also relates to environmental education:

https://www.tatenfuermorgen.de/fonds-nachhaltigkeitskultur/ideenwettbewerbe/

# Quality seals and awards for schools

- Environmental School in Europe International;
- Sustainability School.

"Environmental School in Europe - International Sustainability School" is a call for proposals by the European Environmental Education Foundation F.E.E. (Foundation for Environmental Education), represented in Germany by the German Society for Environmental Education (DGU). http://www.umwelterziehung.de/Gegenwärtig more than 30,000 schools in more than 50 countries worldwide are participating; in Germany there were more than 900 schools from 8 federal states last school year. In Berlin, 46 general education schools and 13 vocational schools have the "Berlin Environmental School" award. The schools are honoured for the development of holistic processes and structures of sustainability in their schools.

https://www.bne-portal.de/de/un-dekade-bne-2005-2014-1728.html

## **Berlin Climate Schools**

Every year, GASAG (an enterprise delivering energy) and the State of Berlin hold the "Berlin Climate Schools" competition. It promotes projects and activities with which Berlin schools contribute to more climate protection and adaptation to climate change. The competition honors particularly committed schools for their involvement in climate protection. The categories in which schools can apply include resource protection, adaptation of technical processes at school or the redesign of everyday school life towards greater sustainability. In contrast to the other Länder, it is not whole schools as school communities that apply here, but individual project teams of pupils together with accompanying teachers.

https://www.berliner-klimaschulen.de/

## Youth competition

A competition for pupils and trainees of the Federal Ministry of Education and Research, which was launched in 2003. Since then, every year several thousand pupils and trainees throughout Germany and at German schools

abroad worldwide develop innovative business ideas, draw up business plans and lead their virtual companies to economic success over eight business periods.

"In the course of the competition year, participants can gain in-depth insights into economic interrelationships and learn about the importance of initiative and entrepreneurial spirit for their own work. Around the competition, a growing educational platform on the topic of Entrepreneurship Education has been established, which provides more in-depth knowledge about founding, business studies, creativity, innovation and other topics in an age-appropriate way" (Wikipedia). https://de.wikipedia.org/wiki/Jugend\_gr%C3%BCndet

## **Federal Environmental Competition**

This competition is about dealing with an environmentally relevant topic from the fields of nature, ecology, climate, economy, society, consumption, technology, politics, health or culture;

Promotion of environmental knowledge among young people and their independence, creativity and initiative. <u>https://wettbewerbe.bildung-rp.de/mint/bundesumweltwettbewerb-vom-wissen-zum-nachhaltigen-handeln.html</u>

## Youth tests

Jugend testet is a youth competition run by Stiftung Warentest in Germany, in which young people can test goods and services independently. The best tests are awarded prizes by a jury of test experts from Stiftung Warentest and other experts from the media and consumer protection

https://www.jugend-testet.de/

## Youth research

"Jugend forscht" is a competition for pupils and young people in the field of natural sciences and technology and is regarded as the best known in Germany. It was initiated in 1965 by the then Stern editor-in-chief Henri Nannen. The annual Jugend forscht competition is organized by the Jugend forscht e. foundation. https://www.jugend-forscht.de/teilnahme.html

## Summary of the competitions

This summary of the competitions and awards is only an extract. It shows how material and immaterial incentives are given to young people to engage in environmental education. A wide variety of organisations with their own interests are involved in this. At the same time, it creates a wealth of good examples that motivate people to emulate them. With these awards, the participating pupils and schools gain recognition and public attention in a field of learning and employment which in many cases still belongs to the avant-garde and must take on a pioneering role.

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# "Green Thinking Entrepreneur Youth" 2019-3-TR01-KA205-080177 Intellectual Output 1 (IO1): Environmental-climate sensitivity analysis reports – Annex Poland –

Environmental education is a horizontal issue concerning all areas of environmental protection and water management. For the sustainable development of the country, it is necessary not only to invest in modern, proecological technologies and rational management of natural resources, but also high ecological awareness of society. As a result, environmental education, ensuring the transfer of current knowledge and content, must be constantly adapted to the changing environment and the need for replenishing knowledge and developing competences, depending on the thematic areas with the use of action tools. Educational activities conducted in an orderly and systematic manner may significantly and positively affect economic development while respecting the constitutional principle of sustainable development. The effectiveness and efficiency of activities in this area requires the involvement, mutual coordination and cooperation of both public institutions, non-governmental organizations, as well as the business environment and the academic community.<sup>25</sup>

# 1. Number of existing institutions (business/NGO/public/youth groups/schools) in your region?

The Świętokrzyskie Region is inhabited by 1.24 million people, which states 3.2 % of the entire country population, that makes it one of the least populated regions in Poland. Over 558,000 people live in cities, and 691 thousand on countryside. It is an industrial and agricultural region. Świetokrzyski region is often divided into a northern industrial and southern agricultural region. Biggest cities of the region are located in the former Old Polish Industrial District. Region's surface is 11,710 sq. km, which state just 3,7% of Poland's area and ranks the region on 15<sup>th</sup> place ranking all regions basing on their surface. Region is divided into thirteen land poviats, one city with poviat rights - Kielce, which is the capital and the main administrative, cultural and economic center. Świętokrzyskie region generates 2,6% of Polish GDP, with employment at 3,4% of domestic employment. The survey conducted by ALEO.com - the database of companies, shows that 79,652 enterprises are registered in the Świętokrzyskie region, including:

- 21,176 companies operating in Kielce, which is 27% of all companies in the Świętokrzyskie region. Per 1,000 people, there are 108 workplaces, 194 companies per 1 sq. km;
- 4,980 companies operate in Ostrowiec Świętokrzyski, 6% of all companies in region. Per 1,000 people there are 71 companies and 107 per 1 sq. m of inhabitants;
- In Starachowice, there are 3,238 workplaces, 4% of companies in the region. Per 1 thousand there are 65 enterprises per 1 sq. km 102 enterprises.

We observe a large disproportion in the distribution of companies. Over 1/4 of enterprises in total are located in Kielce, while in the tenth largest city of region - Skarżysko-Kamienna, there are 53 companies per 1,000 inhabitants, 0,07% of all enterprises in the region.

<sup>&</sup>lt;sup>25</sup> Source: Strategy for Environmental Education of the National Fund for Environmental Protection and Water Management for 2013-2016 with an outlook until 2020, Warsaw, September 2013.



# Legal forms of companies in the Świętokrzyskie

The largest percentage of enterprises in the Świętokrzyskie region are individual economic activities, also the most popular in the country – 68,838 companies are registered. This is as much as 86% of total number of enterprises in the region, which indicates a large fragmentation of business and the advantage of micro-enterprises. In turn, 5,309 companies operate as limited liability company, which is a legal form of the enterprise, formed by at least one or more natural persons who are partners who are liable for the company's obligations to a limited extent, up to the amount of their contribution. Due to the low economic risk borne by the partners, it is a very popular form of a company in Europe.

More than a half less – 2,691 enterprises in the Świętokrzyskie region are registered associations, which in turn, are the most popular legal form of NGO in Poland. Then, 860 are general partnerships, which are an uncomplicated form of partnership. They are characterized by low operating costs, allow for simple accounting and the possibility (to some extent) of covering debts with the company's assets. They are usually selected by partners in one industry who carry out low-risk, small or medium-scale activities. There are also 604 limited partnerships that are suitable for partners, one of which is involved in the company's affairs, and the other wants to limit himself only to providing a financial contribution. The company has legal and court capacity without having legal personality at the same time.

# **Business categories**

In the Świętokrzyskie region, in terms of the category of business activity, construction and renovation companies have an advantage. There are 14,295 of them, which is 18% of all companies operating there. 5,096 registered entities offer medical services, and 4 686 - financial and advisory services. Subsequently, 3,888 enterprises offer business services. Slightly less – 3,654 companies offer transport and shipping services. As it is easy to notice, the advantage of companies offering services is clearly visible.

In turn, the fewest companies offer:

- Medical equipment 5 companies;
- Rail transport and shipping 4 companies;
- Electric and electronic components 1 company;
- Fishing 1 company;
- Fuel 1 company.

# **Closed companies**

From September 1<sup>st</sup> 2019 to November 30<sup>th</sup> 2019, the largest number of companies dealing with hairdressing and cosmetic treatments were opened in Świętokrzyskie, 57 mechanical plants were also established. The most frequently closed activities include: grocery stores - 32 and transport companies - 26.<sup>26</sup>

In Świętokrzyskie, over half of the inhabitants live in rural areas, which certainly contributes to the development of agriculture. However, Special Economic Zone "Starachowice" and the Świętokrzyskie Center of Innovation and Technology contribute to the development of large enterprises. It is worth noting, however, that the leaders among enterprises are one-man activities that provide services on a smaller scale.<sup>27</sup>

Cities with highest number of business entities in region are: Kielce, Ostrowiec Świętokrzyski and Starachowice.

Świętokrzyskie is characterized by a disproportionate distribution of companies. Kielce, as a leader, has 27% of them within its territory. The second place in this category is Ostrowiec Świętokrzyski, where 6% of companies are registered.

Skarżysko-Kamienna can boast the lowest competition of the 10 most numerous cities in the voivodeship, with 53 companies per 1,000 inhabitants.

<sup>&</sup>lt;sup>27</sup> Source: <u>https://www.tvswietokrzyska.pl/wiadomosci/kielce/item/36043-ile-firm-jest-zarejestrowanych-w-wojewodztwie-swietokrzyskim-wedlug-ogolnopolskiej-bazy-firm.html</u>



<sup>&</sup>lt;sup>26</sup> Source: Study conducted by ALEO.com, 17/12/2019.

Cities within the region	Number of companies (per 1 thousand residents)	Number of companies (per 1 km²)	
Kielce	108	194	
Ostrowiec Świętokrzyski	71	107	
Starachowice	65	102	

The most popular legal forms among companies:

Legal form	Number	
Individual business activity	68,838	
Private Limited company	5,309	
Registry association	2,691	
General partnership	860	
Limited partnership	604	

# Higher education in Świętokrzyskie

On November 30<sup>th</sup> 2017 in the Świętokrzyskie region there were 26,4 thousand students (including foreigners) studied at 11 higher education institutions. Students, including the first year of studies – 6,3 thousand.

This means that compared to the previous academic year, the number of students studying at universities located in the region decreased by 1,2%. The main academic center in the region is city of Kielce, in the 2017/2018 academic year, there were two public universities (Jan Kochanowski University in Kielce and Świętokrzyska University of Technology) and 6 private universities with 90,1% of the total number of students were based.

The remaining universities are located in 3 province cities, where 3 non-public institutions conduct educational activities:

- Higher School of Business and Entrepreneurship in Ostrowiec Świętokrzyski;
- Higher School of Humanities and Natural Sciences Studium Generale Sandomiriense in Sandomierz and;
- Higher Vocational Skills School in Pińczów.

Moreover, in Sandomierz there is a Branch of the Jan Kochanowski University, and in Kielce there is a Branch of the Social Academy of Sciences in Łódź.<sup>28</sup>

Specification	Students				
Specification	2016/2017	2017/2018	Full-time	Part-time	2016/2017=100
Total	26,763	26,431	15,204	11,227	98,8
Universities	11,247	11,339	8,749	2,590	100,8
Higher technical schools	7,645	6,690	4,736	1,954	87,5
Economic universities	3,055	3,063	666	2,397	100,3
Pedagogical universities	756	667	-	667	88,2
Other universities	4,060	4,672	1,053	3,619	115,1

Table 1. Students of higher education institutions (including foreigners) by types of schools

## Secondary and post-secondary schools in the Świętokrzyskie Voivodeship

There are 314 secondary and post-secondary schools in the Świętokrzyskie, including 203 vocational schools.<sup>29</sup>

Table 2. Number of schools by type

<sup>&</sup>lt;sup>29</sup> Source: Board of Education in Kielce. Data prepared for the project: "Green Thinking Entrepreneur Youth" - List of secondary and post-secondary schools in which recruitment to first grades was carried out, 28.08.2020.



<sup>&</sup>lt;sup>28</sup> Source: Higher education in the Świętokrzyskie Voivodeship, Statistical Office in Kielce, 28/09/2018.

Type of schools	Number of schools
First Degree Industry School	69
Secondary School	111 (74 high schools for children and adolescents, 37 for adults)
Secondary School	60
Post-secondary school	74

# Non-governmental organizations:

According to the information available on the main website of the City of Kielce, there are 182 foundations, 131 associations, 116 physical culture associations (sports clubs), 95 physical culture associations, 505 associations with legal personality and 67 associations operating in Kielce.<sup>30</sup>

# 2. Number and youth age groups of institutions (business/NGO/public/youth/schools) dealing with environmental and climate issues?

# Number of companies operating in field of environment and climate in the Świętokrzyskie Region:

According to data from the Business Navigator portal (Internet Business Database), in Świętokrzyskie there are following entities:

- 40 companies (Environmental protection, ecology);
- 20 companies (Waste management, recyclable materials);
- 7 companies (Eco food);
- 6 companies (Recycling);
- 32 companies (Solar panels and Photovoltaics);
- 27 companies (Heat pumps).<sup>31</sup>

# Number of NGO's dealing with environmental and climate issues:

Basing on data from the NGO Portal, in Swietokrzyskie region 68 NGO's are dealing and supporting environmental activities, while 29 organizations operates just in City of Kielce.<sup>32</sup>

## Number of secondary schools:

In Świętokrzyskie region there are 10 secondary schools with vocational education, related to environmental and climate protection:<sup>33</sup>

School name	Teaching profile
Technikum 8 w kielcach	Environmental protection Technician
Technikum im. Władysława łokietka w chęcinach	Tech. of devices & systems of renewable energy
Technikum 7 w kielcach	Tech. of devices & systems of renewable energy
Technikum 2 w busku-zdroju	Tech. of devices & systems of renewable energy
Technikum 1 w końskich	Tech. of devices & systems of renewable energy
Technikum 3 w ostrowcu świętokrzyskim	Tech. of devices & systems of renewable energy
Technikum 2 im. Eugeniusza kwiatkowskiego w starachowicach	Tech. of devices & systems of renewable energy
Technikum w zespole szkół rolniczych w cudzynowicach	Tech. of devices & systems of renewable energy
Technikum w zespole szkół im. Oddziału partyzanckiego ak jędrusie	Tech. of devices & systems of renewable energy
Technikum w zespole szkół im. Stanisława staszica w staszowie	Tech. of devices & systems of renewable energy

<sup>&</sup>lt;sup>30</sup> Source: <u>www.um.kielce.pl</u>

<sup>&</sup>lt;sup>31</sup> Source: https://www.baza-firm.com.pl/

<sup>&</sup>lt;sup>32</sup> Source: <u>https://spis.ngo.pl/swietokrzyskie?cat%5B2384%5D=2803;</u>

<sup>&</sup>lt;sup>33</sup> Source: Board of Education in Kielce. Data prepared for the project: "Green Thinking Entrepreneur Youth" - List of secondary and post-secondary schools in which recruitment to first grades was carried out, 28.08.2020.

# 3. Identify examples of good practice (concerning environmental and climate issues) with particular emphasis on schools, mainly secondary schools and vocational schools.

Climate protection is an important issue for Poland. Many people, institutions and organizations rise on challenges so that ecological awareness accompt people on daily basis. Taking care of the immediate environment should become a habit, for example through such simple activities as waste segregation, saving electricity (turning off unnecessary lighting, purchasing energy-saving light bulbs and household appliances, not leaving radio and TV sets on standby), saving water consumption in households, returning used batteries or electronic waste to dedicated collection points.

At present, more and more initiatives related to environmental and climate issues appear in the Świętokrzyskie region. Already in early education, environmental education becomes more and more important, and thanks to it both children and adults become conscious users of the natural environment.

Children learn about ecology from kindergarten. At school, during various educational activities, students learn about environmental protection, climate change, saving energy, water, raw materials, segregating and recycling waste. They develop their pro-ecological competences. Emphasizing the importance of the topic of environmental education, the ministry introduced a regulation that obliges teachers to discuss the most important climate and environmental protection issues with students from September 1, 2020 during classes with the teacher.

During compulsory classes on various subjects, all students learn about environmental education. From kindergarten, they have instilled respect for the natural environment. They learn that caring for the environment is everyone's responsibility. It largely depends on our daily habits and the way we run a household.

At school, children strength appropriate habits, learning how to save energy, water, raw materials, segregate and reuse waste, as well as ecological handling of technical products. They learn about climate change by getting to know the complexity nature. Those topics are present on various school subjects: science, geography, chemistry, physics and biology.<sup>34</sup>

Another good example of pro-ecological activities is the Youth Ecological Council. It is a nationwide social and educational initiative operating under the patronage of the Minister of the Environment, aimed at improving the condition of the natural environment by promoting the idea of sustainable development and increasing environmental awareness of the society.

The competences of the Youth Ecological Council at the Ministry of the Environment include expressing opinions on matters covered by government administration departments regarding the environment, and in particular presenting opinions on planned changes in national policies, strategies and legislative changes within the Ministry of the Environment competences.

Youth Ecological Council is working under the auspices of the Ministry of the Environment, Mr Michał Woś. Minister, in cooperation with the Ombudsman for Children of the Republic of Poland and the General Directorate of State Forests, appoints the Youth Ecological Council. The Council will be composed of 32 people aged between 13 and 21 from all over Poland. The aim of the project is to create a space for children and young people who want to engage in activities for environmental protection. Project was announced in September this year.

This project will encourage young people to involve in pro-ecological activities, which will allow them to build a greater sense of responsibility for the surrounding environment. Thanks to cooperation with experts and institutions, they will gain expert knowledge and learn about the work of people actively involved in nature conservation. The project will educate youth ecology leaders, prepare them to be local leaders in order to build environmental awareness of their peers.

The creation of the Council will allow the Ministry to get to know the views and ideas of young people presenting their own point of view. It should be added that the Council will not

only have an advisory role, but will also have its own budget for granting youth grants for pro-ecological projects and activities.<sup>35</sup>

<sup>&</sup>lt;sup>34</sup> Source: <u>www.kielce.uw.gov.pl</u>

<sup>&</sup>lt;sup>35</sup> Source: <u>https://mre.srodowisko.gov.pl/</u>

Companies from Świętokrzyskie region are organizing more and more projects and initiatives aimed at proecological activities both at the company and school level. A good example is Geopark Kielce - Geoeducation Center, which in 2016 has signed 6 grant agreements in the field of environmental education, funded from the Provincial Fund for Environmental Protection and Water Management in Kielce.

# List of completed projects:

- 1. 'GEO-ŚWIĘTOKRZYSKIE Educational Workshops' with value of PLN 2.800,00 (subsidy of PLN 2.240,00 representing 80% of eligible costs). Educational workshops were dedicated to people involved in environmental education of children and young people: teachers of science from Świętokrzyskie region, educators, representatives of non-formal education organizations and institutions. The workshop program included issues related to the values of the geological heritage of the Świętokrzyskie Mountains and its sustainable use in the field of tourism and geo-ecological education.
- 2. 'GEO-Geniusz Knowledge Competition about the Earth 4th edition' with a total value of PLN 6.460,00 (subsidy PLN 5.168,00 representing 80% of eligible costs). The task was implemented by organizing and conducting a knowledge competition on the geological values of the Świętokrzyskie region. Competition was dedicated to students from secondary schools in the Kielce poviat. The subject of the competition included knowledge of geology, geography and ecology of the Świętokrzyskie region. The competition, which has permanently entered the calendar of educational competitions in the Świętokrzyskie Voivodeship, is an excellent tool to promote the values of inanimate nature in the region, which make the region unique compared to other regions in Poland. Participants learn about the local geological heritage, and thus supplement the content of the core curriculum with information that goes beyond the basic scope.
- 3. Educational program for the Geology Enthusiasts Club with a total value of PLN 3,200,00, (subsidy PLN 2,560,00 representing 80 % of eligible costs). Project titled 'Educational project for members of the Geology Enthusiasts Club' was implemented in two ways: field trips and stationery (practical) classes. Their main goal was to enrich the club's educational offer by exploring geo sites of the Świętokrzyskie region. As part of the task, for the Geology Enthusiasts Club 2 field trips were organised, in the Świętokrzyski National Park and its surroundings, under the supervision of professional guides. The field trips resulted in geological specimens (rocks/fossils/Świętokrzyskie minerals). These specimens will be successively used during the practical workshops of the Geology Enthusiasts Club, incl. rock processing classes.
- 4. Educational competition Geostanowiska in your neighbourhood 2016 Edition with a total value of PLN 22.560,00, (subsidy to PLN 18.048,00 gross, which is 80% of eligible costs). The competition was dedicated to primary and secondary school students from the Świętokrzyskie region and their guardians. The participants of the competition prepared posters presenting the geological wealth of their area as well as generally interesting natural places. The submitted competition works were assessed by the jury for their artistic and substantive value. The Competition Committee selected the best works to be presented at the exhibition at the Geoeducation Center. As part of the Competition, a summary meeting was organized at the Geoeducation Center, during which the authors of the competition were awarded with gifts.
- 5. Publication of ABC... Świętokrzyskie geology with a total value of PLN 30.000,00 (subsidy PLN 24.000,00 representing 80% of eligible costs). The task was: development, printing and distribution of a didactic publication on the geological heritage of Kielce, addressed to teachers and educators. The publication is a guide containing a synthetic description of selected Kielce geological sites along with photographic documentation, enriched with practical tips on their use on school lessons and extracurricular activities at various levels of education.
- 6. Additional equipment for the Geoeducation Center (total value PLN 14.000,00 with the subsidy PLN 7.000,00 which is 50% of eligible costs) As part of the task, a professional optical microscope was purchased along with a camera and an adapter for a digital SLR camera and a set of accessories, enabling the use of the set-in advanced observation and photography of rocks, minerals and fossils. The purchased accessories consisting of a



microscopic and photographic set are used in the implementation of educational workshops: GEO-MIKRO-LAB and the educational exhibition GEOLOGICAL MICROCOSMOS.<sup>36</sup>

From May to December 2019, the Society for Research and Protection of Nature carried out three educational projects co-financed by the City of Kielce. About 730 pre-schoolers and primary school students participated in field activities and lectures. The aim of the "Forest class" project was to conduct cyclical field trips, during which children learned the ability to observe natural phenomena occurring in the forest with the changing seasons and to encourage them to spend their free time in the bosom of nature. The program covered 87 pre-schoolers from the Private Forest Kindergarten "Dziupla" - groups "Mała Dziupla" and "Big Dziupla", Casa dei Bambini Kindergarten - groups 1 and 2, Local Government Kindergarten No. 39 - group VI "Butterflies" and group VII "Biedronki".

As part of the project "What's up in the grass?" - we are getting to know the Świętokrzyska nature 15 field activities took place. The purpose of the nature tours was to encourage children to learn about the surrounding natural world and to give them the opportunity to expand their knowledge through close contact with nature and its observation. Primary school students and kindergarten children have enriched their natural knowledge in the field of ecology of animals and plants found in the Świętokrzyskie Region. The program covered 333 students from the following educational institutions in Kielce: Primary School No. Maria Konopnicka, Primary School No. Stanisław Staszic, Local Government Kindergarten No. 1 and Private Forest Kindergarten "Dziupla".

"Why is it worth to protect the Świętokrzyskie nature?" - the aim of the project was to familiarize schoolchildren with the dangers threatening the natural environment and to awaken in them the need to protect the surrounding world. Thanks to the project, students also learned about protected species of animals and plants of Świętokrzyskie Region and the forms of nature protection in our region. Program covered 313 students from Primary School No. Stanisław Staszic in Kielce.<sup>37</sup>

In Primary School No. 27 K. K. Baczyński in Kielce, a new Ecological Education Laboratory was established thanks to program "Educational studio in primary school - clean air, water, soil and renewable energy sources", implemented by the Provincial Fund for Environmental Protection and Water Management and the City Hall in Kielce, Department of Municipal Services and Environmental Management. Participation in the program was associated with:

- Extra-curricular activities carried out in cooperation with local institutions;
- Participation in nationwide campaigns related to environmental protection
- Ecological educational activities carried out in accordance with the core curriculum in the lessons of biology, chemistry, geography, physics, early school education and classes with a tutor.

The school received a set of natural teaching aids (e.g. a model of a water turbine, a vehicle with a hydrogen drive, experimental sets, meters, charts, films, games and many others), as well as new furniture for the studio for a total amount of PLN 30 000. In addition, a sensor has been placed outside the building, which constantly monitors the air condition in the vicinity, and the obtained data is made available on the school website. The received educational aids make the classes more attractive and constitute a valuable help in the implementation of the curriculum content through fun and conducting student experiments.

As part of the project at the Jan Kochanowski University in cooperation with Wodociągi Kieleckie, students participated in workshops on air protection and the impact of its pollution on weather and climate. Students also took part in classes in Energy Science Center at the Kielce Technology Park, where they could deepen their knowledge about renewable energy sources. Science teachers use the educational aids they received on an ongoing basis during classes.

They are also systematically used by children from the day-room during weekly extracurricular activities. Students get involved in nationwide campaigns (eg Clean the World) and environmental competitions. The project activities ended with the official presentation and opening of a new ecological studio. The lab equipped in such a way will

<sup>&</sup>lt;sup>36</sup> Source: <u>http://geopark-kielce.pl/pl/</u>

<sup>&</sup>lt;sup>37</sup> Source:http://www.tbop.org.pl/index.php?option=com\_content&view=article&id=510&Itemid=37

enable school to popularize science through play and experimenting, as well as gaining knowledge through experiences and independent searches of students.<sup>38</sup>

Another example of good practices in the field of raising environmental awareness among young people is the activity of the Świętokrzyskie Center for Innovation and Technology Transfer (ŚCITT), which implemented a project supporting development of vocational education "Professional specialization for the horizontal industry - Sustainable Energy Development for the needs of the Świętokrzyskie industry".

ŚCITT implemented a project (2017-2018) aimed at increasing the quality of vocational education and adapting the forms and methods of teaching to the requirements of the regional employer. The project was carried out in partnership with Fabryka Kotłów SEFAKO S.A. - one of the largest manufacturers of industrial boilers in Europe. The beneficiaries of the project were students and teachers of the Mechanical Technical School, part of the Secondary School Complex in Sędziszów, which in the past educated qualified workers later employed in "SEFAKO". The project assumed a return to the tradition of education for specific production needs. In addition, the Kielce University of Technology, a partner of the project, conducted lectures and practical exercises in laboratories for students and teachers in the field of: automation of production processes, renewable energy sources and laser welding in the energy sector. As part of the project, 69 students completed 400-hour internships with an entrepreneur. 15 of them started learning in a specially created patron class in September 2017. Additionally, two teachers completed a 40-hour internship with an entrepreneur.

The project assumed:

- Developing a comprehensive modular curriculum;
- Implementation of high-quality internships at SEFAKO, tailored to the specific needs of the company, covering all stages of the production process;
- Creation of a patron class specialization Technician Power Engineer for the energy industry;
- Equipping school workshops with a professional milling center;
- Implementation of additional classes, ie lectures and exercises in the field of: automation of production processes, renewable energy sources, laser welding in the power industry, specialized TIG and MAG welding courses, trips to energy fairs and the welding industry, additional classes in mathematics and English.

The implementation of the project "Professional specialization for the horizontal industry – Sustainable Energy Development for the needs of industry in Świętokrzyskie" was co-financed in the total amount of PLN 2.417.703,50. The leader of the project implemented under Sub-measure 8.5.1 of the RPOWŚ was the Świętokrzyskie Center for Innovation and Technology Transfer. The partners of the project were: Fabryka Kotłów SEFAKO S.A., Complex of Secondary Schools in Sędziszów and the Kielce University of Technology.<sup>39</sup>

Another example of good practices is the activity of the Complex of Świętokrzyskie and Nadnidziańskie Landscape Parks in Kielce. The team organised educational activities, carries out projects and lectures at all levels of education. Their goal is to:

- Dissemination of knowledge about the need to preserve and rationally use natural resources;
- Getting to know the role and function of specially protected areas;
- Getting to know the natural, cultural, historical and landscape values of the immediate vicinity and the region;
- Shaping proper human attitudes towards nature.

The complex of Świętokrzyskie and Nadnidziańskie Landscape Parks in Kielce has implemented a project titled 'Construction of the Nature Education Center in Ponidzie in Umianowice, commune Sticks'. The subject of the project was the construction of the Nature Education Center with educational and technical facilities, a fully functional and operational project, adapted to the needs of children and people with disabilities, integrated into the surroundings and environmentally friendly, at the same time modern and fully equipped. The main goal of the center is to support formal (school and academic) and informal didactics in the area of acquiring knowledge and

<sup>&</sup>lt;sup>39</sup> Source: <u>http://www.it.kielce.pl/specjalizacja-zawodowa-dla-branzy-horyzontalnej.html</u>



<sup>&</sup>lt;sup>38</sup> Source: http://www.sp27.kielce.eu/
skills, as well as shaping pro-ecological attitudes based on direct learning and research of the natural environment and the threats posed to this environment by human activity. Nature education classes for youth are planned at the center, including stays of several days as part of "green schools", field nature education workshops, science camps, sightseeing tours as well as outdoor and recreational activities. The main assumption of the center will be to bring children and young people closer to nature by showing them its beauty, curiosities, secrets and gifts, in an atmosphere of well-prepared and organized fun.

Educational program of the center:

- Field classes, based on careful observation of biological, physical and chemical phenomena according to thematic scenarios, adapted to age groups at all levels of education;
- Laboratory classes in didactic and laboratory rooms;
- Seminar classes and thematic discussions;
- Didactic games and activities, ecological workshops;
- Picnics and themed festivals;
- Art and photographic locations;
- Lectures and talks;
- Presentations of films, photos and exhibits;
- Scientific and sightseeing tours;
- Regular events related to local holidays, including ecological holidays;
- Seminars and training.

The center will also be a place for the organization of scientific conferences, internships for students of science and for the implementation of scientific and research projects related to the protection of the natural environment, as well as friendly and open to naturalists, ecologists and tourists from Poland and abroad. By assumption, it will be a center for disseminating information and broadly understood science education, addressed to the recipients of the Ecological Education Program, as well as it will cooperate with other institutions promoting natural, historical, cultural and landscape values in the country. The facility is open to the public, dedicated to school children and youth, students, scientists, teachers and the local society interested in learning more about the natural environment.<sup>40</sup>

### Good examples in companies:

On the 18<sup>th</sup> edition of the largest CSR activities review in Poland highest records were noted. Compared to the previous year, about 10% more companies and good practices were applied (1,696 practices reported by 214 companies). Practices related to the care for the environment turned out to be the most dynamically developing area (an increase of over 35% compared to the previous edition of the report). Every third reported practice concerned social involvement and development of the local community (564 new and long-term practices in this area). The industries most represented in the report are: finance, services and trade.

Vive Textile Recycling is an example of corporate social responsibility. The Responsible Business Forum has published a report as part of the series "15 Polish examples of corporate social responsibility". VIVE Textile Recycling with its Textile Upcycling trend was among the awarded practices. Textile Upcycling is a form of textile waste recycling that produces products with a value higher than the processed raw materials. This process reduces both the amount of waste and the number of materials used in primary production.

The trend leader is VIVE Group, for which an important element of the long-term strategy is to strive for further development of business potential while reducing costs and adapting to the changing environment, which is becoming more and more sensitive to the environmental and social impact of the largest business players. The main goals of the organization's strategy are: recycling, including innovative research and development programs, reduction of carbon dioxide emissions, proper waste management, reduction of paper and electricity consumption,

Erasmus+



<sup>&</sup>lt;sup>40</sup> Source: www.pk.kielce.pl

and safety in the workplace. Publication motto: 'on the way to a circular economy for Poland', with which the entire VIVE Group identifies itself. The Textile Upcycling trend presented in the report is a form of textile waste recycling, resulting in products with a value higher than the processed raw materials. This process reduces both the amount of waste and the number of materials used in primary production. The Responsible Business Forum report is a response to the increasingly popular trend of combining the achievement of environmental and business goals by abandoning the linear model in favour of the circular economy. Each subsequent edition of the publication is addressed primarily to the academic community, but is also an inspiration for business.

Innovation and eco-friendliness are gaining more and more popularity, which is the market's response to the changing needs of society and business. It is similar with the leading product of VIVE Innovation - part of the VIVE Group - the ecological textile composite VIVE Texcellence, from which utility products can be seen from many places. More than 20 benches made of this innovative material have been installed near the Kielce Cultural Center. VIVE Texcellence composite is made of textile waste and plastic packaging waste. This product solves the problem of recycling post-consumer textile waste. The product has a wide range of applications - from structural, small architecture, lighting poles to details such as hangers, stands, boards, structural elements and various types of fittings, ideal for the needs of the construction and engineering, architectural and garden furniture industries. Arrangements with the use of composite can be seen in countries such as Germany and Denmark. VIVE Texcellence combines the best properties of plastics and wood.

Additionally: it is easy to process and can be further processed; has a very high mechanical strength and at the same time high elasticity (much stronger than comparable plastics); it is resistant to weather conditions and biological factors (moisture, low temperatures, fungi and moulds, does not absorb water); does not require maintenance; it is friendly to the touch, free from splinters and resin; muffles sound very well due to high density and fibber content; despite so many advantages and innovation, its price is comparable to wood and WPC (combination of wood and plastic).

Moreover, a modern composite supports the natural environment in a real way, because: 95% of its composition consists of secondary raw materials – clothing and used packaging; the product is 100% recyclable (including the production of alternative fuel); its production leaves a minimal trace of CO2; contributes to the reduction of the amount of waste in landfills and the reduction of deforestation; the production of the composite enables the recovery of a significant amount of energy used to produce the raw materials from which the product is manufactured.

The VIVE Innovation company, part of the VIVE Group, engaged in the search for innovative technologies enabling 100% recycling of textiles, created the innovative RETEXTIL material. It is perfect as a building material for a modern garden with a unique design. Retextil textile composite, which is a modern substitute for wood, is created, among others, from recycled used clothing (95% of its composition is recycled material). Its main advantages are durability, elasticity and resistance to weather conditions and biological activities. The material does not require maintenance, is impact-resistant and allows for full carpentry processing. All the properties of the RETEXTIL composite enable it to be used outdoors, wherever natural wood is used.

The company VIVE Textile Recycling Sp. z o. o. also organizes a number of events, such as the Ecological Congress for Pre-schoolers and the accompanying Conference: 'The effects of environmental degradation and ways to counteract it', not only aimed at drawing attention to all activities for environmental protection from an early age , but also emphasising the need for dialogue of various environments: scientific, local government and business, as well as a common strategy and involvement of local communities in global problems.

For many years, VIVE Group has been carrying out CSR activities raising awareness of the society about responsible consumption and production, as well as promoting educational initiatives in the field of ecology, recycling and entrepreneurship among children and young people.

In the latest report "Responsible Business in Poland 2019. Good Practices", VIVE Group was awarded for supporting the mini-company "Animalki", founded by students of the Juliusz Słowacki in Kielce. Thanks to the help offered by



the company, as well as enormous commitment, young people not only develop their passions, creativity and enhance character traits, but also help to fight animal homelessness.<sup>41</sup>

As a good example, it is also worth adding the ecological activity of the Kielce Technology Park as part of the Energy Science Center (ECN). The aim of the Center is to popularize science through fun and experimenting. Interactive stands and devices built at the exhibition are original concepts, designed and constructed especially for the Energy Science Center. The exhibition is unusual and very universal. In ECN, learning is intertwined with fun. Visitors learn what energy is, how it is used, and learn about its renewable and non-renewable sources.

By experimenting and conducting experiments, visitors are encouraged to engage in exploring and understanding the world, as well as deepening their knowledge. The offer of the center dedicated mainly to schools, including secondary and vocational schools. The KTP Energy Science Center organizes numerous ecological initiatives. One of them are ecological competitions for schools, co-financed by the Provincial Fund for Environmental Protection and Water Management in Kielce.

#### 1st edition – 2017:

The aim of the competition was to familiarize participants with the dangers of the future of cities, to draw the attention of primary school students to how expanding cities pose threats to the natural environment, to increase environmental awareness among children and adolescents, to develop pro-ecological attitudes in children, to make children aware of the need to care for the environment and the causes of smog, as well as acquainting them with various ways of preventing pollution and the opportunities for creating greener and friendlier cities.

#### 2nd edition - 2018:

The aim of the competition was to raise the awareness of primary school students about the principles used in organic farming, shaping the habits of ecological culture and a sense of moral and civic responsibility for the protection of natural goods.

#### 3rd edition – 2020:

The aim of the competition was, among others, creating pro-ecological behaviour patterns and shaping attitudes, values, habits to comply with the principles of environmental protection and economical management of natural resources, or to increase ecological awareness among children and adolescents regarding the emergence of environmental problems and beliefs that will ensure care and the possibility of environmental protection.<sup>42</sup>

Actions such as the World Tree Day, the National Clean Up the World Action, and Earth Day should also be mentioned as good examples. These campaigns are of great interest to both young people and adults.

As part of the celebration of the World Tree Day in the Świętokrzyskie region, actions are held during which trees are planted. Kindergartens, schools, students, institutions and companies join the campaign.

In Poland, the Day of the Tree has been held since 2002 on October 10<sup>th</sup>. The initiator of the Tree Day was the American Julius Sterling Morton, who in 1872 made an appeal to the inhabitants of Nebraska City that on April 10<sup>th</sup>, who could plant a tree. Morton's idea came to Europe in 1951.

As part of the National Clean Up the World campaign, schoolchildren are involved in collecting rubbish. During the march, young people often exchange disposable bags for ecological ones.

For the 50<sup>th</sup> time in the world, and for the 30<sup>th</sup> time in Poland, on April 22<sup>nd</sup>, World Earth Day was celebrated. The slogan of the holiday in 2020 is "Actions for climate protection", and the main goal related to the celebration of this day was to promote pro-ecological attitudes in the society.

Earth Day is an event with a long tradition. This day was celebrated for the first time on April 22<sup>nd</sup>, 1970 in the United States as a reaction of people to the degradation of the natural environment. Since then, the Earth Day celebrations have been held almost all over the world, and every year in the Świętokrzyskie many thousands of

<sup>&</sup>lt;sup>42</sup> Source: http://ecn.kielce.pl/index.php/pl/strona-glowna/



<sup>&</sup>lt;sup>41</sup> Source: <u>https://www.vivetextilerecycling.pl/</u>

people took part in them. In Poland, the idea of the Earth Day appeared in 1990. The celebrations in previous years were accompanied by meetings, lectures and discussions, concerts as well as activities for children and youth. The activity of the Provincial Fund for Environmental Protection and Water Management in Kielce can also be indicated as an example of good practice. In addition to financial support for tasks in the field of environmental protection and water management, the Fund also organizes many events aimed at promoting environmental awareness. An open-air event called 'Eco Cinema'.

During the event, films promoting appropriate ecological attitudes in the field of nature protection will be presented, as well as cooperation between the Government of the Republic of Poland, the Ministry of Climate, the National Fund for Environmental Protection and Water Management in Warsaw and the Provincial Fund for Environmental Protection and Water Management in Kielce in the implementation of the "Clean air" as well as other programs jointly implemented. As part of the event, Energy Consultants and employees of the Fund will organize competitions for all age groups regarding air protection, renewable energy sources and broadly understood ecology. The prizes in the competition will be tree seedlings, which will contribute to the improvement of air quality, and will draw the attention of the inhabitants of the Świętokrzyskie Voivodeship to the need to care for the ecosystem.<sup>43</sup>

As a good example, the project entitled 'Świętokrzysko-Podkarpacki Energy Cluster' carried out by the Świętokrzyskie Centrum Innowacji i Transferu Technologii Sp. z o.o.

The aim of the project was to build a platform for supra-regional cooperation in the field of broadly understood energy conservation, including promotion, implementation and dissemination at the local, regional and supraregional level of the objectives of the new energy policy of the European Union, in particular efficient energy use. The cluster comprised business environment institutions, research units, enterprises and local government units. As part of the Project, the following strategic activities of the Cluster were defined:

- Establishment of the EWE information and education center;
- Development of local climate, energy and ecological analyses;
- Organizing foreign industry missions to familiarize with European good practices and examples of the implementation of local and regional initiatives in the field of EWE;
- Promoting and disseminating innovative technologies in the field of EWE;
- Attracting new members of the Consortium to ensure its sustainability and development;
- Establishing contacts with similar organizations operating in the country and other European Union countries, promotion, dissemination and transfer of innovation;
- Supporting activities of innovative companies and undertakings consistent with the objectives of the Consortium, including by searching for and assistance in acquiring national and EU sources of financing for EWE projects, acquiring and creating high-quality know-how for the implementation of EWE projects.

Project implementation period: 01/04/2013 - 30/06/2015

The project was implemented on the basis of an agreement concluded with the Polish Agency for Enterprise Development. Project co-financed by the European Regional Development Fund.<sup>44</sup>

Subsidies granted in 2019 in frame of Cooperation Program of City of Kielce with non-governmental organizations in the field of ecology and animal protection and the protection of natural heritage.

<sup>&</sup>lt;sup>44</sup> Source: <u>www.spinno.pl</u>



<sup>&</sup>lt;sup>43</sup> Source: <u>www.wfos.com.pl</u>

Source: <u>http://www.um.kielce.pl/edukacja\_ekologiczna/wspolpraca-z-organizacjami-pozarzadowymi/art,21818,dotacje-udzielone-w-2019r-.html</u>

No.	Organization Name	Task Title	Amount of the	N. of participants / educational units /		
			grant 2019 (PLN)	meetings, workshops		
	District of the Polish	Organization of travel to ecological farms		1,051 children, 132		
	League for Nature	as part of integrated ecological education	9 000	guardians, 5 primary		
	Protection	for preschool children, school youth – 20	9,000	schools, 14		
1	Trotection	workshops.		kindergartens		
		Method and place task implementatio	n, subject matter			
	The subject of the trips:	From grain to loaf, From milk to small chees	e, Soil is our wealth, Do	we know what we eat,		
	that is, about organic pr	oducts, Household fragrances, Willow and wi	cker, Carded shirt or wh	nat it was like with linen.		
	Classes on farms and ed	lucational farms in the Kielce poviat.				
	Polish Scouting	Organizing training for youth leaders	5,000	35 leaders		
	Association "Hufiec"	about ecology & sustainable development				
2	Kielce-City	to conduct nature workshops				
2		Method and place task implementatio	n, subject matter			
	Stage I stationary works	hops - preparation of programs concerning e	environment, ecology a	nd threats;		
	Stage II - field workshop	s promoting the ideas of sustainable develop	oment.			
	District of the Polish	Organization of 15 workshops:	10,000	458 children, 3		
	League for Nature	Zmysłoteka – Creative Education for		primary schools, 8		
	Protection	children in preschool and primary school.		kindergartens		
3		Method and place task implementatio	n, subject matter			
	- Colourful wonders from	m the gifts of nature - artistic works from the	gifts of the forest colle	ected,		
	- Forest closed in a jar -	creating your miniature forest in a jar,				
	<ul> <li>Soap workshops with §</li> </ul>	gifts of nature - preparation of a block of glyc	erine soap with gifts, f	ragrances of the forest		
	District of the Polish	Organization of 25 field nature workshops	20,000	1,028 children, 9		
	League for Nature	entitled: "Nature hunters for a start - in		primary schools, 7		
4	Protection	search of biodiversity".		kindergartens		
		Method and place task implementatio	n, subject matter			
	- Forest alchemy in the	Świętokrzyski National Park - ecosystem in a	jar,			
	- Great power of small creatures - pollinating insects - beekeeping farm "Pszczółka" in Nowa Słupia					
	District of the Polish	Publishing, recording or purchasing	6,000	1,000 pieces		
	League for Nature	materials for youngsters and teachers				
5	Protection	related to nature and its protection.				
	Method and place task implementation, subject matter					
	"I know and protect - pl	ants protected in Poland" colouring book, rea	alization / recording of	a music CD with poems		
	by J. Gajzler about the beauty of nature and the Świętokrzyskie region.					
	District of the Polish	15 educational nature trips promoting	6,750	557 students, 49		
	League for Nature	natural and landscape values in the		teachers, 10 primary		
6	Protection	footsteps of Świętokrzyskie nature		schools		
		Method and place task implementation, subject matter				
	A trip route:					
	Kielce – Bodzentyn -Święta Katarzyna –Ciekoty – Kielce					
	District of the Polish	"Closer to nature - Closer to each other"	2,500	398 children, 38		
	League for Nature	organization of an ecological festival for 6		guardians, 8		
7	Protection	kindergartens/schools in Kielce.		kindergartens		
		Method and place task implementatio	n, subject matter			
	A festival in the Medieval Settlement in Huta Szklana, the program includes competitions, games and quizzes related					
	to ecology, environmen	tal protection and NATURA 2000 areas.				

	District of the Polish	Organization of the 6th Nature Song	4,000	280 children, 18	
	League for Nature	Festival for children entitled: "GREEN" for		kindergartens	
	Protection	at least 8 kindergartens in Kielce.			
8		Method and place task implementatio	n, subject matter		
	Vocal and musical prese	entations of the participants, a performance of	on selective waste colle	ction "Mr. Bzdura i Pani	
	Makulatura".				
	District of the Polish	Organization of the Natural Knowledge	3,000	717 children, 18	
	League for Nature	Tournament for 6 kindergartens in Kielce.		kindergartens, Stage	
9	Protection			II - 54 children	
		Method and place task implementatio	n, subject matter		
	Stage I - inside kinderga	rten - the selected 3-person teams participat	te in the final of the tou	rnament.	
	District of the Polish	15 field workshops on the nature	6,000	458 children, 5	
	League for Nature	educational in the municipal forest in		primary schools, 9	
10	Protection	Kielce "Leśna Przygoda"		kindergartens	
10		Method and place task implementatio	n, subject matter		
	Nature workshops orga	nized on the educational path entitled "Fore	st Adventure" located a	at the forest stadium in	
	Kielce - practical classes	with the use of boards on the route and wo	rk sheets.		
	Society for Research	"What's up in the grass?" – we get to	6,500	333 children, 2	
	and Protection of	know the Świętokrzyska nature "- 15 field		primary schools, 2	
11	Nature	activities for children		kindergartens	
	Method and place task implementation, subject matter				
	Field classes - getting to know the inhabitants of the meadow ecosystem - butterflies, beetles and other insects as				
	well as birds, mammals	and amphibians.			
	Society for Research	"Why is it worth protecting nature in	6,000	313 primary school	
	and Protection of	Świętokrzyskie?" – a series of 15		students	
12	Nature	workshops for primary school students.			
	Method and place task implementation, subject matter				
	Classroom workshops w	vith a multimedia presentation			
	Society for Research	"Forest class" – 18 cyclical field activities	6,000	87 children, 3	
	and Protection of	for preschoolers		kindergartens,	
13	Nature				
		Method and place task implementatio	n, subject matter		
	Systematic observation	of nature in the forest during the changing s	easons from May to the	end of November.	
	Swiętokrzyskie	Workshops on bees, beekeeping	4,500	248 children, 2	
	Association of	management - 10 workshops for primary		primary schools, 2	
14	веекеерегс	School students and preschool children	n aubiaat waattau	kindergartens	
	A multimadia procentat	Nethod and place task implementatio	n, subject matter		
	A multimedia presentat	Ion, beekeeping equipment show, making wa		y. 207 shildron 1	
	Wild Clinic	conducting 15 workshops for primary	4,500	387 Children, 1	
	Foundation	school students & kindergerten shildren		kindorgartons	
15		Mothed and place tack implementatio	n cubiect metter	Kindergartens	
	Internod and place task implementation, subject matter				
	ones and how to react y	workshops in the classroom on wild animals living in the city, distinguishing animals requiring help from healthy			
1	ones and now to react when meeting a wild / injured and healthy animal.				



**4.** What number of young people we expect to reach/involve (directly and indirectly) with the project? Defined target group/participants and other stakeholders for "Green Thinking Entrepreneur Youth" project:

- It is worth preparing the database of the target group, map their needs and impact on the project/project results;
- It is worth preparing the database of "project ambassadors/influencers" and to build their involvement by information, consultation, partnership, and dialogue.

Table will be filled during next months, when project activities will be detail planned and after initial contacts with potential project stakeholders, listed in point 6 of this elaboration.

Name of the	Contact	Importance (1-5)	attitude:	Communication channels
unit/person		1 - tactic (indirect)	favorable,	(maybe there are some specific
		5 - strategic (important, direct)	neutral, negative	dedicated to the person/unit)

### Ask the question:



### Target group of project activities are:

- Teachers in primary, secondary and vocationally schools in field of pro-ecological and pro-climate subjects, listed in point 7;
- School's directors;
- Companies from so called 'eco-sector';
- Bodies responsible for the supervisor of education units: schools, vocational education units;
- Chamber of commerce in field of ecology;
- Vocational Training Centres;
- Non-formal education teachers;
- Centers for Teachers Training;
- Parents.

#### and:

- Local/regional authorities
- Government authorities
- Ministry of Education and Climate
- Local Media
- Inhabitants
- Society



and other relevant stakeholders pointed during next project activities.

#### Stakeholder map



Involvement

5. Identify potential stakeholders that can be our partners in those training about environmental-climate issues made at your green thinking centres?

#### National-wide stakeholders:

The Ministry of the Environment, by co-creating the state policy, cares for the environment in Poland and around the world and influences the long-term development of the country, carried out with respect for nature and human rights, so as to take into account the needs of both contemporary people and future generations.

The Ministry of the Environment is a modern, professional, publicly trusted institution that rationally manages natural resources, cares for environmental education of the society and is open to cooperation in the field of environmental protection.

https://www.gov.pl/web/srodowisko

#### **Ecological associations:**

• The League for Nature Conservation is the oldest ecological organization in the country. It was established on January 9, 1928, and the emblem of the association is a stylized bison with the name of the organization. LOP strives to ensure ecological safety for the present and future generations. It works by organizing seminars, workshops, conferences, camps, summer camps, nature trips, competitions, exhibitions and Olympics. It also undertakes intervention activities.

https://www.lop.org.pl/

• The Polish Zero Waste Association was founded on March 11, 2017 in Warsaw. The mission of the association is to reduce waste produced at source, to support the circular economy model and to promote a zero-waste lifestyle.

https://zero-waste.pl/

• The Center for Ecological Activities of the Source for over 20 years has been dealing with broadly understood ecological, natural, global and civic education. The mission of the association is to constantly increase the level

of environmental awareness of the society through active education, carried out mainly through workshops, training, field trips, information projects https://www.zrodla.org/

• The Eco-Initiative Association is a non-governmental organization operating in the field of environmental education, nature protection and social animation. The organization tries to meet the needs of active citizens who want to implement social and environmental projects. The association's mission is ecology with people and for people.

#### **Ecological foundations:**

 The Greenpeace Polska Foundation is an independent international non-governmental organization that works to protect the natural environment. The organization focuses its activities on the most significant, both global and local, threats to biodiversity and the environment. Greenpeace has been operating in Poland since 2004. The Foundation does not accept donations from governments, political parties and corporations, and its activities are financed with the support of individual donors.

https://www.greenpeace.org/poland/

• **Our Earth Foundation** is a non-governmental organization specializing in environmental and civic education. The areas of the Foundation's activities also include waste management, saving and protection of the Earth's natural resources, and the protection and preservation of biodiversity. http://www.naszaziemia.pl/

#### National Foundation for Environmental Protection

Pursuant to the provisions of the statute, the activities of the National Foundation for Environmental Protection focus on providing advices and consultations related to environmental protection, developing cooperation with local governments and nature protection services, promoting and implementing modern principles of biodiversity protection, conducting educational activities.

https://nfos.org.pl/

#### **Ecological public benefit organizations:**

#### Polish Green Network

The Union of Associations The Polish Green Network is a nationwide public benefit organization associating environmental organizations operating in the largest Polish cities. The union bases its activities on building civic support for sustainable development, creating mechanisms of social control of spending public funds, increasing the influence of consumers on the quality of products and the policy of global corporations. http://zielonasiec.pl/

Veolia Polska Foundation

The main objectives of the Foundation are to conduct and support activities in the field of environmental protection activities, educational and educational activities, including activities in the field of science, higher education, education, and upbringing.

https://www.fundacja.veolia.pl/

#### Chambers:

### Polish Chamber of Ecology

The aim of the Polish Chamber of Ecology is to represent its affiliated entities in activities for environmental protection and sustainable development. The members are both large enterprises from the mining and



professional power industry, as well as one-person companies, research institutes and universities. It carries out its mission and statutory tasks through organizational, educational, legislative and publishing activities. http://www.pie.pl/

#### Stakeholders at regional and city level:

• Kielce City Hall:

### Department of Municipal Economy and the Environment

Supervision over the implementation of the Municipal Environmental Protection Program. Environmental education and promotion of pro-ecological activities and the principle of sustainable development.

#### **Department of Education**

Keeping records of kindergartens and non-public schools and granting them subsidies, supervision over the activities of schools and kindergartens

http://www.um.kielce.pl/

- Kielce City Hall, Integrated Teritorial Investment Office, Thematic group for environmental protection: Tasks of the thematic group include:
  - Initiating joint projects in the area of the Kielce Functional Area.
  - Participation in consultations in the preparation of strategic documents necessary to apply for funds for the implementation of projects.
  - Creating a network of contacts between institutions and organizations operating on the territory of the NFA in the thematic scope of the group.
  - Educational and information activities for local communities (meetings, workshops, posters, information leaflets, knowledge competitions about the ITI KOF).
  - Expanding the knowledge of people who are members of groups.

## • Regional Office – Marshall's Office of the Swietokrzyskie Region:

**Department of Environment and Waste Management** 

https://www.swietokrzyskie.pro/category/urzad-marszalkowski/departamenty/departament-srodowiska-i-gospodarki-odpadami/

### Department of Education, Department of Education, Sport and Tourism

https://www.swietokrzyskie.pro/category/urzad-marszalkowski/departamenty/departament-edukacji-sportui-turystyki/

### • Regional Fund for Environmental Protection and Water Management in Kielce:

Its general goal is to improve the condition of the environment and sustainable management of its resources by: stable, effective and efficient support for projects and initiatives serving the environment in the Świętokrzyskie Voivodeship, full and consistent with the principles of sustainable development use of funds from the European Union for environmental protection, in relation to five domain environmental objectives (priorities).

- Protection and sustainable management of water resources;
- Rational waste management and protection of the earth's surface;
- Protection of the atmosphere and protection against noise;
- Protection of biodiversity and ecosystem services;
- Environmental education for sustainable development.



Environmental education is to activate teachers and educators to more effective educational activities of students, who should protect and shape the immediate environment of life and activities. It is a necessary condition for the existence of human activity, and meanwhile, it is more and more endangered every day. Environmental education concerns the knowledge, skills and attitudes in the field of modern nature protection and shaping the human environment. It also includes the awareness of ecological threats and the need to act properly in favour of the environment and life. Ecological disasters make us realize more and more that human economic activity can cause the extinction of life on Earth. The ecological crisis affects the entire globe and each country separately. Despite the growing understanding of environmental problems and the undoubted efforts of many countries to mitigate the effects of environmental degradation, it should be stated that the measures taken so far have proved insufficient to counteract the continued deterioration of the quality of the environment1. The process of environmental education and education must start from kindergarten so that the child grows in the awareness of the role of the environment in human life and responsibility for its protection. Only a long-term educational process will allow us to fully understand the meaning of the statement: "man is the whole of nature and is an integral part of the environment". Education of children is the basis and condition for rational behaviour in the spirit of respect for nature here and now and in the future, as well as the desired behaviour towards others and oneself in order to maintain mental and physical health. Hence, so many documents regulating our life in the country, in the world emphasize environmental education of children, youth and adults. Ecological activities should be initiated already in kindergarten and continued in primary school. Problem solving environmental issues is to look for answers to the questions posed as a result of careful observation (of objects, phenomena, processes), during which the student acts and thinks independently, and reasoning (predicting results, explaining phenomena and dependencies.



Source: https://pixabay.com/pl/photos/ochrony-%C5%9Brodowiska-683437/

### In Poland, the legal basis for environmental education is contained in:

- 1. Legal acts:
- a) The Act of 6 December 2006 on the principles of development policy (i.e. 2009, no.84, item. 712 as amended d.);
- b) The Act of 27 April 2001 Environmental Protection Law (i.e. Journal of Laws of 2008, No. 25 item 150 as amended d.);
- c) The Act of September 13, 1996 on maintaining cleanliness and order in communes (i.e. Journal of Laws of 2012, item 391, as amended);
- d) The Act of 29 July 2005 on waste electrical and electronic equipment (Journal of Laws of 2005, No. 180, item 1495, as amended);
- e) Act of April 16, 2004 on nature protection (i.e. Journal of Laws of 2013, item 627);



- f) The Act of 7 September 1991 on the education system (i.e. Journal of Laws of 2004, No. 256, item 2572 as amended d.);
- g) Regulation of the Minister of National Education of 27 August 2012 on core curriculum for preschool and general education in individual types of schools (Journal of Laws 2012, item 977);
- h) Regulation of the Minister of Science and Higher Education of 17 January 2012 on the standards of education preparing for the profession teacher (Journal of Laws 2012, item 131);
- i) Regulation of the Minister of Science and Higher Education of September 29, 2011 on the terms of program evaluation and institutional evaluation (Journal of Laws No. 207 item 1232);
- j) Regulation of the Minister of Science and Higher Education of November 2, 2011 on the National Qualifications Framework for Higher Education (Journal of Laws No. 253 item 1520);
- k) Regulation of the Minister of Science and Higher Education of November 4, 2011 on model learning outcomes (Journal of Laws No. 253 item 1521);
- I) The Act of 2 April 1997 Constitution of the Republic of Poland (Journal of Laws 1997, 78, item. 483, as amended);
- m) The Act of 16 September 2011 on development cooperation (Journal of Laws 2011 No. 234, item 1386);

## 2. National Strategies:

"The 2030 National Environmental Policy – the Development Strategy in the Area of the Environment and Water Management " (PEP2030)<sup>45</sup>.

The Core Curriculum for General Education - environmental issues appear in it with varying degrees of intensity in relation to various subjects and depending on the stage of teaching. The greatest the responsibility for teaching pro-ecological attitudes in the current General Education Foundation rests with subject teacher's natural science: nature, biology, chemistry, geography, physics. Environmental education issues are implemented to a lesser extent on other subjects: history, social studies, ethics, classes technical and plastic. Ecological education is also carried out on higher education.

The objectives of environmental education resulting from the above-mentioned legal acts are:

- Shaping full and multifaceted awareness and awakening interest in related issues: social, political, economic and ecological;
- Enabling the acquisition and expansion of knowledge and skills, which are necessary for the protection and improvement of the environment;
- Creating pro-ecological behaviour patterns and shaping attitudes, values and beliefs that will provide care and protection the environment;
- Disseminating the idea of sustainable development in everyone spheres of life, including: education, work and leisure embrace environmental education of all citizens of the Republic of Poland;
- Implementation of environmental education as an interdisciplinary education at the stages of formal and informal education;
- Creating environmental education programs at the levels administrative at the level of: regions and communes;
- Promoting good methods, ideas and experiences in the field methodology and ecological education<sup>46</sup>.

Environmental education should provide reliable knowledge about the environment, appeal to the imagination of children, awaken in them on the one hand an ecological approach, and on the other hand, sensitivity to the beauty of nature and shape the ability and willingness to act for the environment.

Source: Energetic Science Centre in Kielce Technology Park,

https://www.facebook.com/ECN.KPT/photos/a.1071376589559222/3602978203065702/

 <sup>&</sup>lt;sup>45</sup> Source: National ecological policy 2030 - development strategy in the field of environment and water management <u>https://bip.mos.gov.pl/strategie-plany-programy/polityka-ekologiczna-panstwa/polityka-ekologiczna-panstwa-2030/</u>
 <sup>46</sup>Source: Core Curriculum for General Education <u>https://podstawaprogramowa.pl/Szkola-podstawowa-I-III</u>





In environmental education, we can distinguish the following three basic one's elements:

- 1. Education in an environment where the environment is used as a source of knowledge and development of the student's skills,
- 2. Education about the environment, i.e. science about the environment, the aim of which is to understand the principles of the coexistence of the natural world and the human world,
- 3. Education for the environment, which boils down to shaping a rational approach to the environment and instilling the belief that everyone is responsible for dealing with the natural world<sup>47</sup>.

A teacher pursuing an environmental education program should remember that environmental education cannot just deal with education, that is, teaching knowledge, but it must educate, that is, shape pro-ecological attitudes.

### What does Polish school teach about the environment and climate?

In compulsory classes in various subjects, all students learn about environmental education. From kindergarten, they have instilled respect for the natural environment. They learn that caring for the environment is everyone's responsibility. It largely depends on our daily habits and the way we run a household.

During the classes, children shape appropriate habits, learning to save energy, water, raw materials, segregate and reuse waste, as well as ecological handling of technical products. They learn about climate change by getting to know the complexity of the issues. They implement this content on following school subjects: nature, geography, chemistry, physics and biology.



Sample teaching content in the field of environmental education.

<sup>&</sup>lt;sup>47</sup> Source: *The core curriculum of general education with a commentary. Science*. Ministry of Education and Education development center 2020; <u>https://www.ore.edu.pl/wp-content/uploads/2017/05/przyroda.-pp-z-komenatarzem.-szkola-podstawowa.pdf</u>



Primary school, pro-climate and pro-ecology subjects:

**Technics**, adopting a pro-ecological attitude; attitudes of responsibility for the contemporary and future state of the environment; shaping the ability to segregate and reuse waste in the immediate

vicinity; eco-technologies helpful in environmental protection; ecological handling of technical products, especially worn ones.

**Geography**, the impact of human activity on the atmosphere on the example of smog, hydrological investments on the geographical environment, agriculture, mining and tourism on the geographical environment, transport on living conditions and environmental degradation, conflict of human-environment interests, revitalization processes and pro-ecological activities.

**Biology**, the student presents lichens (a simple slow-growing plant that typically forms a low crusty, leaf like, or branching growth on rocks, walls, and trees) as indicator organisms, assesses the degree of air pollution with sulphur oxides using a lichen scale; presents renewable and non-renewable natural resources as well as proposals for rational management of these resources in accordance with the principle of sustainable development.

**Chemistry**, student: indicates the causes and effects of the decrease in ozone concentration in the Earth's stratosphere; proposes ways to prevent the expansion of the "ozone hole"; lists environmental factors that cause corrosion; describes the cycle of oxygen and carbon in nature; designs and carries out an experiment to confirm that air is a mixture; describes the composition and properties of air; lists the sources, types and effects of air pollution; lists the methods of allowing to protect the air against pollution<sup>48</sup>.

### Secondary school:

**Biology**, student: explains what ecological tolerance is; plans and conducts an experiment to examine the scope of ecological tolerance in relation to a selected environmental factor, justifies the need to use various forms of nature protection, including Natura 2000; justifies the necessity of international cooperation (CITES, Convention on Biological Diversity, Agenda 21) for the protection of biological diversity; presents the essence of sustainable development).

**Geography**, hydrosphere: water resources on the ground, seas, river network, glaciers; Environmental problems of the modern world: tropical cyclones, whirlwinds, storms, floods, tsunamis, soil erosion, volcanism, seismic shocks, the formation of karst craters, climate change, desertification, changes in the range of glaciers, limited water resources on Earth, threats to geodiversity and biodiversity.

**Chemistry**, student: lists the basic types of air, water and soil pollutants / e.g. heavy metals, hydrocarbons, fuel combustion products, freons, dusts, nitrates, phosphates, orthophosphates, their sources and impact on the natural environment; describes the types of smog and the mechanisms of its formation; proposes ways to protect the natural environment against pollution and degradation in accordance with the principles of sustainable development<sup>49</sup>.

The teaching content in the field of environmental education is also included in the core curricula for the following subjects: **ethics, modern foreign language, entrepreneurship.** 

Source: Energetic Science Centre in Kielce Technology Park, https://www.facebook.com/ECN.KPT/photos/a.1071376589559222/3602978203065702/

### Additional activities of the Ministry of National Education

Ministry organises and promotes number of activities promoting environmental education. It finances organization of national contest for students on geography and ecological knowledge. The latest competition about ecology was

<sup>&</sup>lt;sup>48</sup> Source: Ministry of National Education: <u>https://www.gov.pl/web/edukacja/tresci-dotyczace-edukacji-ekologicznej-obecne-</u> w-polskich-szkolach

<sup>&</sup>lt;sup>49</sup> Source: Ministry of Climate, For teachers: <u>http://nauczyciele.mos.gov.pl/index.php?mnu=42</u>

the most popular, compared to other school subjects' competitions. It was attended by almost 26 thousand students<sup>50</sup>.

Ministry also organises trainings for teachers, thanks to which they improve their competences in the field of ecology, for example, the Education Development Center runs projects entitled Safe + or Global Education.

Educational law allows additional educational activities in schools on ecological issues. The school authority - at the request of the school head - may designate hours for each class to carry out additional educational activities.

Emphasizing the importance of the topic of environmental education, the Ministry introduced a regulation that obliges teachers to discuss the most important climate and environmental protection issues with students from September 1, 2020 during classes with the teacher<sup>51</sup>.

## 7. Main domains and job opportunities in your region related to environmental-climate issues? "Green economy in strategic documents of the Świetokrzyskie region.

The deteriorating condition of the environment that took place from the mid-twentieth century directed the activity countries to pay particular attention to awareness-raising issues ecological and counteracting environmental threats. As a result of these actions, issues related to environmental protection (with particular emphasis on issues related to Effective Use of Energy and Renewable Energy Sources) are reflected in the records the following strategic documents:

- Strategy "Energy Security and Environment a perspective until 2020" in the document this emphasis was placed on achieving economic growth in the country primarily through ensuring energy security and access to innovative technologies;
- Development Strategy for the Świętokrzyskie Region until 2020:
  - Research and Innovation Strategy (RIS3) as part of sustainable energy development, green economy has been defined as one of the horizontal specializations of the region;
  - Regional Operational Program WŚ 2014-2020, Priority axis 3. Efficient and green energy, Thematic objective
     4. Supporting the transition for a low-carbon economy in all sectors.

Increased demand for education in the fields of study and job creation in the sector related to the "green economy" will mainly be shaped by the increase in the use of:

- Environmental technologies, i.e. technologies related to use renewable energy sources;
- Energy-saving technologies in construction;
- Technologies supporting energy and resource efficiency in processes production; and the growing popularity and universality of environmentally friendly services and products natural, appreciated by consumers.

The development of the "green economy" sector is primarily a necessity to build attitudes environmentally friendly among people, in particular through active education. When building the "green economy" sector, it must be assumed that all jobs are created or existing, related to environmentally friendly activities should be recognized for "green".

"Green jobs" are opportunities to increase the employment of specialists in various fields, e.g. scientists, architects, designers, engineers, entrepreneurs, officials, activists, social workers & advisers, farmers, technicians, operators etc.

Due to the significant amount of electricity generated from renewable energy sources energy, amounting in 2014 to 19,841.2 GWh in Poland (of which in the Świętokrzyskie Region 12.18% was produced), a high share of renewable energy in electricity production (national average 12,5%, Świętokrzyskie 26.2%) and an increase in the average

<sup>&</sup>lt;sup>50</sup> Source: Ministry of National Education: <u>https://www.gov.pl/web/edukacja/tresci-dotyczace-edukacji-ekologicznej-obecne-w-polskich-szkolach</u>

<sup>&</sup>lt;sup>51</sup> <u>https://kuratorium.kielce.pl/43934/edukacja-klimatyczna-w-polskiej-szkole/</u>

electricity consumption in the years 2004-2014 (by 15,7% in the country, and as much as 40,5% in Świętokrzyskie), it should be assumed that the these will continue to exist<sup>52</sup>.

Consequently, the demand for qualified personnel should grow find employment in newly created jobs related to production, processing, storage and transmission of energy. Moreover, there will be a necessity job creation by modernizing the current energy infrastructure in the province and the country. Therefore, it is necessary to create directions at different levels education related to energy production and saving, in particular taking into account in this regard, environmental protection and renewable energy sources.

Region should educate young people in related professions with obtaining electricity from biomass, because only mixed biomass nearly 33% of domestic energy production was generated in the Świętokrzyskie Voivodeship from this source.

It is also projected that due to the fact that in the northern and north-eastern parts existing region, favorable wind conditions (10m/s) will contribute to the construction of the wind power plant. Construction of wind farms and obtaining energy from this source, as well as her collecting and uploading will generate jobs for people with proper qualifications. It also seems necessary to educate and generate new jobs with obtaining electricity from sources that use solar energy because in the Świętokrzyskie region there are good conditions in this respect (average insolation is 1600 hours a year).

All related professions should also be classified as "green professions" with the cultivation of energy crops. It is also extremely important and necessary to educate specialists dealing with developing innovative technologies and solutions related to the green industry economy<sup>53</sup>. It is also justified to prepare for professions related to the broadly understood resource-efficient construction, in particular passive construction. It is predicted that the development of such construction will increase the demand for specialized electricians, installers, automation and electronics engineers.

Due to the fact that the protection of resources is not only due to concern for the state of the environment natural but also for purely economic reasons in the Świętokrzyskie region there should be more and more school / university graduates who will have knowledge and skills related to improving resource efficiency. Świętokrzyskie schools / colleges should educate in professions that deal with the production of products / services in terms of approach pro-ecological at every stage of the product / service life, including its disposal and recycling.

The deteriorating condition of the natural environment will contribute to the creation of new places work for people who have qualifications to perform related services with the reduction of greenhouse gas emissions, the reduction of waste and pollution, and the protection ecosystems and restore them to their original state.

To generate new jobs that require appropriate qualifications in "green economy" will also have EU programs, some of which will be allocated for the creation of jobs related to the "green economy" sector and environmental protection.

The concept of green economy is inextricably linked with the paradigm of sustainable socio-economic development based on those areas of economic activity that play an auxiliary role towards the natural environment and on social responsibility for the quality of life for future generations. The question of distinguishing which sectors of the economy are related to the green sector can be considered from different points of reference<sup>54</sup>.

Generally, it can be concluded that almost all sections of the PKD (Polish classification of economic activity) contain activities that may have a positive impact on the environment. But following sectors are directly related to the green economy:

- Agriculture, forestry, hunting and fishing;

<sup>&</sup>lt;sup>52</sup> Source: Analysis of the demand for education in the fields of developing workplaces in the area "green economy" in the Świętokrzyskie region. Document prepared for the implementation of the Regional Program of the Świętokrzyskie region for 2014-2020.

<sup>&</sup>lt;sup>53</sup> Source: Analysis of the demand for education in the fields of developing workplaces in the area "green economy" in the świętokrzyskie region. Document prepared for the implementation of the Regional Program of the Świętokrzyskie region for 2014-2020.

<sup>&</sup>lt;sup>54</sup> Ibidem

- Industrial processing;
- Production and supply of electricity, gas and steam water, hot water and air for air conditioning systems;
- Water supply; sewage and waste management and activities related to reclamation;
- Construction;
- Wholesale and retail trade; repair of motor vehicles;
- Transport and warehouse management;
- Activities related to accommodation and services gastronomic;
- Activities in the field of administration services and activities supporting;
- Public administration and national defense; compulsory social security.
- 8. What incentives, competitions, tenders, prizes are available at the regional or supra-regional level to promote environmental awareness, sustainable development and financing for green entrepreneurs?

Funds for financing education for sustainable development are available from various sources, including National Fund for Environmental Protection and Water Management, Provincial Fund for Environmental Protection and Water Management, Ministry of Foreign Affairs (in the field of global education) or the Ministry of the Environment, most often in the form of competitions.

### **National Fund for Environmental Protection**

The National Fund for Environmental Protection and Water Management is a state legal entity that finances environmental protection and water management according to Act of April 27<sup>th</sup>, 2001, Environmental Protection Law.

Entities applying for funding submit funding applications to the National Fund, which are subject to detailed assessment. Financing is provided to projects that fulfilled criteria set out in individual priority programs.

Priority programs define in details, deadlines, procedures of submitting applications, form, intensity and conditions of co-financing, as well as beneficiaries and type of actions, eligible costs and the procedure for selecting projects. Co-financing of projects is carried out by granting:

- 1. Interest-bearing loans;
- 2. Subsidies, including:
- Additional payments to interest on bank loans;
- Making partial repayments of bank loan principal;
- Subsidies to the interest rate or the bond redemption price;
- Subsidies for dismantling of vehicles.

The decision on co-financing is made by the Management Board of the National Fund, and in the cases specified in the Environmental Protection Law - by the Supervisory Board of the National Fund. Co-financing from the funds of the national fund for environmental protection and water management is carried out in accordance with the "Rules for granting financing from the national environmental protection and water management fund".

The basis for accepting and considering applications for co-financing in the National Fund are priority programs, which forms and conditions of co-financing and detailed criteria for selecting projects. The financial management of the National Fund for Environmental Protection and Water Management through priority programs guarantees a transparent, objective and impartial process of granting co-financing.

The list of priority programs of the National Fund for Environmental Protection and Water Management is approved annually by the Supervisory Board of the National Fund for Environmental Protection and Water Management.

### List of the priority programs of the National Fund for Environmental Protection and Water Management for 2020:

### I. Protection and sustainable management of water resources:

- 1. Water and sewage management in agglomerations;
- 2. Investments in wastewater management outside the country;

3. National program of water and sewage management outside the borders of agglomerations included in the National Program of Municipal Sewage Treatment.

## II. Rational waste management and protection of the earth's surface:

- 1. Protection of the earth's surface;
- 2. Co-financing of projects implemented under measures 2.2 and 2.5 of the Infrastructure and Environment Operational Program;
- 3. Circular economy;
- 4. Getting to know the geological structure for the benefit of the country;
- 5. Reducing the nuisance resulting from the extraction of minerals;
- 6. National program of environmental regeneration of soils by liming;
- 7. Removal of agricultural films and other agricultural waste;
- 8. Disposal of abandoned waste;
- 9. Access to thermal waters in Poland;
- 10.Rational waste management.

## III. Protection of the atmosphere:

- 1. Clean air;
- 2. OWL outdoor lighting;
- 3. Cheetah II low-emission transport;
- 4. Energy-efficient construction;
- 5. Green Investment Scheme (GIS) Kangaroo Safe and ecological way to school;
- 6. KOLIBER taxi good for the climate pilot;
- 7. Green car co-financing the purchase of an electric passenger car (M1);
- 8. eVAN electric delivery vehicle (N1).

## IV. Protection of biodiversity and ecosystem services:

1. Protection and restoration of biological and landscape diversity.

### V. Cross-domain:

- 1. Support for the Minister of Climate in the implementation of climate policy;
- 2. Tasks indicated by the legislator;
- 3. Supporting the activities of environmental monitoring;
- 4. Adaptation to climate change and limiting the effects of environmental threats;
- 5. Environmental education;
- 6. Co-financing of the LIFE program;
- SYSTEM Support for environmental protection and water management activities implemented by external partners – REGION;
- 8. Energy Plus;
- 9. District heating;
- 10.Energy self-sufficiency pilot;
- 11.Gecko Generator of Ecological Concepts;
- 12. Support for innovations conducive to a resource-efficient and low-carbon economy;
- 13.Nationwide program of financing rescue services;
- 14.Solar Roofs;
- 15.Co-financing of projects implemented under sub-measures 1.3.1 and 1.3.2 of the Infrastructure and Environment Operational Program;
- 16.Support for projects implemented under Measure 1.1.1, measures 1.2, 1.5 and 1.6 of the Infrastructure and Environment Operational Program 2014-2020;
- 17. National program of financing the removal of asbestos-containing products;
- 18.Polish Geotermia Plus;



19. Agroenergy;

20.My Current;

21.GeoBlok;

22.Co-financing of projects implemented under the Financial Mechanism of the European Economic Area 2014-2021;

23.My Water.55

## Provincial Fund for Environmental Protection and Water Management in Kielce

The Provincial Fund for Environmental Protection and Water Management in Kielce is a local government legal entity, operating pursuant to the Act of April 27<sup>th</sup> 2001 - Environmental Protection Law. Statutory funds are allocated to co-finance tasks in the field of environmental protection and water management on the basis of the Environmental Protection Law and environmental protection policy, implemented in the Świętokrzyskie region. The aim of the Fund is to improve the condition of the environment and sustainable management of its resources by:

- Stable, effective and efficient support for projects and initiatives serving the environment in the Świętokrzyskie Voivodeship;
- Full and consistent with the principles of sustainable development use of funds from the European Union for environmental protection, in relation to the five domain environmental objectives (priorities).

The Fund's domain priorities are:

- 1. Protection and sustainable management of water resources;
- 2. Rational waste management and protection of the earth's surface;
- 3. Protection of the atmosphere and protection against noise;
- 4. Protection of biodiversity and ecosystem services;
- 5. Other environmental protection activities, including broadly understood environmental education for sustainable development.

The main goal of the priority is: 'Supporting projects in the field of environmental protection and water management, which have been co-financed by the European Union and other foreign sources.

The fund, under the agreement signed with the National Fund for Environmental Protection and Water Management in Warsaw, is its partner in the implementation of the 'National system of advisory support for the public and housing sector and entrepreneurs in the field of energy efficiency and renewable energy'.<sup>56</sup>

# Other competitions and incentives to promote environmental awareness, sustainability and finance green businesses:

The Ministry of National Education runs a number of activities promoting environmental education. Ministry finances the organization of subject Olympiads in geography and ecological knowledge. The latter is the most popular, compared to other Olympics. It was attended by nearly 26 thousand. students. The Ministry also organizes training for teachers, thanks to which they improve their competences in the field of ecology, for example, the Education Development Center conducts projects entitled Safe+ or Global Education. Educational law gives the possibility of conducting additional educational classes on environmental issues in schools. The school authority - at the request of the school head - may designate hours for each class to conduct additional educational activities.<sup>57</sup> In order to promote environmental awareness, numerous competitions and initiatives are held. An example of such a project is the "Green Studio" competition. The subject of the competition is to create a school studio project for the needs of natural, biological, ecological, geographic, geological or science. The idea for the development of the studio was assessed - its functionality, innovative solutions, variety of didactic aids.

<sup>&</sup>lt;sup>57</sup> Source: <u>https://www.kielce.uw.gov.pl/pl/biuro-prasowe/komunikaty/17371,Tresci-dotyczace-edukacji-ekologicznej-obecne-w-polskich-szkolach.html</u>



<sup>&</sup>lt;sup>55</sup> Source: <u>http://www.nfosigw.gov.pl/</u>

<sup>&</sup>lt;sup>56</sup> Source: <u>http://www.wfos.com.pl/</u>

108 primary schools from the Świętokrzyskie Voivodeship received up to PLN 20,000 in 2014 to create modern science education laboratories. The money was donated by the Provincial Fund for Environmental Protection and Water Management, which prepared a list of items and devices that can be found in such a workshop. They bind, among others with the use of renewable energy. Examples include a hydrogen powered vehicle, photovoltaic cells, models for focusing solar energy and kits to show energy generated from biomass. The laboratories also include devices for testing the content of individual elements in water and equipment for experiments in the field of soil and earth surface protection. The workshop serves both children and ecological education of adult inhabitants of communes.

The complex of Świętokrzyskie and Nadnidziańskie Landscape Parks in Kielce conducted educational classes, lectures and implements ecological projects. It regularly organizes an ecological competition called 'Ecology, us and the region we live in'. The project is aimed at young people from the Świętokrzyskie. The aim of the project is to inspire students' love and respect for the natural environment, to sensitize them to its diversity, richness and beauty, as well as to expand their knowledge of the region.<sup>58</sup> In 2019, another edition of Hackathon Idea Kielce was organized in Kielce, with topic: Smart City. It is an urban programming marathon in Kielce, during which coding enthusiasts using open data of the city of Kielce created mobile and web applications to improve the quality of life in the city. The applications were to cover one of the following topics (or combine several of them):

- Urban space (availability of places and space for residents, urban landscape, advertising in the city, public space);
- Environment (renewable energy sources, solar energy, air protection, greenery);
- Mobility and electromobility (transport and public transport, city travel, bike and car-sharing);
- Social communication cooperation (social consultations, notifying about city events, working in a group, social sharing).

Hackaton lasted 40 hours, over 150 amateur programmers worked on creating applications that would make inhabitants life easier. During the event, there were mentors who gave the participants valuable tips - including how to work in a team, under time pressure and how to present your product. There were valuable prizes for the best teams. The prize pool included tablets, smartphones and high-end electronic equipment. The best ones turned out to be high school students from the Kielce High School no. Juliusz Słowacki, who came up with an eco-application that would help in recycling.<sup>59</sup>

The Regional Science and Technology Center organizes one-day educational workshops entitled Eco-enthusiasts. Delegation from the school may consist of max. 4 students + 1 tutor. Topics related to promoting ecological awareness and sustainable development are discussed during the workshops.

The Center for Knowledge and Bioeconomy Development is located in the Regional Science and Technology Center with headquarters in Świętokrzyskie. It is an initiative created by representatives of research and development, business, scientific, local government institutions and the media. The center was established on January 11<sup>th</sup>, 2019 as part of the RDI2CluB project. INTERREG BSR. The activities of the Center are based on three goals:

- Assisting micro, small and medium-sized enterprises in planning project management and implementation;
- Networking help in establishing and maintaining contacts with entities with similar interests;
- Lobbying for setting the bioeconomy as an intelligent specialization of the Świętokrzyskie Region.

The center is designed for micro, small and medium-sized entrepreneurs operating in the area of bioeconomy, i.e. the production of goods and offering services using the renewable resources that surround us in a sustainable manner. Almost every industry sector can operate in accordance with the principles of bioeconomy, offer high-quality products and services, while caring for the environment and getting rich. Even if the company was established and operates according to the old rules, which do not take into account the sustainable use of biomass, nothing stands in the way of initiating changes and becoming "bio" in a short time.<sup>60</sup>

<sup>&</sup>lt;sup>60</sup> Source: <u>http://rcnt.pl/</u>



<sup>&</sup>lt;sup>58</sup> Source: <u>www.pk.kielce.pl</u>

<sup>&</sup>lt;sup>59</sup> Source: <u>https://hackathon.kielce.eu/</u>

Province Office in Kielce implements an ecological education program for the Kielce Province, 'For the Earth, for myself' is co-financed by the Provincial Fund for Environmental Protection and Water Management in Kielce. At the turn of 2019/2020, the 16<sup>th</sup> edition was already held. Numerous ecological competitions for children and young people are announced, for example concerning recyclable materials, nature and its protection, waste segregation. The prizes in the competition are teaching and nature materials. More and more institutions encourage companies to care for the natural environment, a good example is program 'ECOlogical in businesses. It is a free educational project for all companies and institutions that run or want to introduce ecological solutions in their activities. Ecological activities can affect many key areas of the company that we have not linked to ecological changes. A company participating in that program gains:

- Free Ecological Package that company can implement and use immediately after registration;
- Possibility of receiving a certificate confirming participation in the program;
- Constant access to interesting articles, innovative solutions and ways to strengthen ecological attitudes in the company;
- Support in the process of planning ecological activities;
- Implementation of ecological solutions in the company, improvement of work safety and increase of ecological awareness of employees;
- Strengthening the image of the brand and the employer the company will be better perceived by contractors and potential employees.

The materials available in the program allow for the implementation of basic activities aimed at running a "green" company, and the business cards of registered companies that have joined the program may be a selection criterion for potential contractors, and for other entrepreneurs a database of potential business partners.<sup>61</sup>

	Number
Companies participating in the program	267
Industries supporting CSR	28
Solutions that can be implemented	97
Supported actions	254

The Foundation for Education and Social Dialogue "Pro Civis" is an independent, non-governmental organization working to integrate business and science. The Foundation actively supports cross-sectoral dialogue by initiating, partnerships between institutions. The "Pro Civis" Foundation has a positive impact on the development of society and economy by popularizing knowledge and stimulating the growth of entrepreneurship, especially in the field of smart specialization and key technologies (Key Enabling Technologies KET).

"Pro Civis" also implements projects related to social innovation, and supports initiatives for the development, testing and implementation of innovative tools and methods for managing technique and technology. The Foundation specializes in the implementation of research and implementation projects that help to face the social and economic challenges of the 21<sup>st</sup> century. The Foundation established the Institute of Technology and Technology Management, which undertakes activities for intelligent and sustainable economic development. ITTM deals with the commercialization of knowledge and the implementation of new technological solutions. The analyses and research carried out by the Institute help to create the conditions necessary for the development of enterprises from various economic sectors.

The Foundation for Education and Social Dialogue "Pro Civis" is a member of the BIC Bio-based Industries Consortium.

The Foundation is actively involved in popularizing the bioeconomy and the circular economy. It also works for the development of European technological potential, taking into account the sustainable management of natural

<sup>&</sup>lt;sup>61</sup> Source: <u>http://ekologiczni.com.pl/o-programie/</u>



resources. Pro Civis also supports work on modern education systems, as well as the development of human resources, which are key factors for building an innovative environmentally friendly economy.<sup>62</sup>

# 9. Briefly describe the Green Entrepreneurship culture in your region and list some possible actions to increase it?

Green entrepreneurship can provide new employment opportunities to workers who are set free during the restructuring towards a greener economic model. Implementation of this model brings four facts which have to be emphasized as follows:

- Green entrepreneurs are indispensable for employment creation and GDP growth;
- SMEs are highly interlinked within value chains, creating significant spill-over effects;
- Green entrepreneurship can best be supported through interventions at various levels, using a broad choice of instruments;
- Finally the youth can be well targeted, since entry requirements are low and willingness for innovation is high.

Moreover, sustainable development indicators present involvement of some member states in European integration expressed in cohesion in environmental policy and reflect better shift to green model of EU development. Finally, the relations between so described areas of European integration indicates that further research in this topic is required<sup>63</sup>.

### Motives and barriers of environmental entrepreneurship

The basic factors supporting the development of green entrepreneurship are environmental regulations, which is a factor supporting the environmental commitment of enterprises<sup>64</sup>.

Stages	Motives	Barriers
Commitment	<ul> <li>restrictive legislation promoting productivity and innovation</li> </ul>	<ul> <li>lack of implementing regulations,</li> <li>complicated administrative and legal procedures</li> <li>costs associated with compliance to regulations and standards</li> </ul>
Proactivity	<ul> <li>the advantage of being first on the market (competitiveness)</li> <li>improving the image</li> </ul>	<ul><li>lack of perceiving benefits</li><li>difficulties in accessing finances</li></ul>
Innovation	<ul> <li>ecological market development through innovation</li> <li>social and environmental responsibility</li> </ul>	<ul><li>lack of expertise</li><li>lack of human resources</li></ul>

Table 1: Motives and barriers at various stages of the development of ecological entrepreneurship<sup>65</sup>

<sup>&</sup>lt;sup>65</sup> MOTIVES AND BARRIERS FOR GREEN ENTREPRENEURSHIP: A SYSTEMATIC REVIEW, M. URBANIEC at Oxford Conference Series | October 2017 2nd Academic International Conference on Interdisciplinary Business Studies- AICIBS 2017 7th International Conference on Trade, Business, Economics and Law- ICTBEL 2017 Conference Proceedings.



<sup>&</sup>lt;sup>62</sup> Source: <u>https://www.procivis.org.pl/home/</u>

<sup>&</sup>lt;sup>63</sup> Green Entrepreneurship in the European Integration Context Adam Sulich, Tomasz Zema, Piotr Zema, Proceedings of the 4th International Conference on European Integration 2018

<sup>&</sup>lt;sup>64</sup> Montes, A. (2011). What is Green Entrepreneurship? [online]. [cit. 2018-02-05]. Available at: <u>https://www.an-entrepreneur.com/public-content/greenentrepreneurship/what-is-green-entrepreneurship/</u>

## Motivators

## Procedures, surcharges and customers

- They clearly need support legal, financial and knowledge;
- For 9 out of 10 enterprises from the SME sector, the most important facilitation, which could additionally encourage companies to undertake ecological activities, would be the simplification of the procedures for implementing eco-measures<sup>66</sup>;
- 2/3 of companies would be more motivated by additional subsidies and concessions, and for 6 out of 10, the importance of ecology would be greater if it was greater in customers' purchasing decisions<sup>67</sup>.

## Barriers

Too much work and money, the difficulties they face,

- Create more related work inputs with care for ecology (95%),
- Higher costs of used eco-materials in production (60%)
- And no possibility producing attractive for the customer product without chemicals (56%)<sup>68</sup>

The development of eco-entrepreneurship is fostered by three main groups of factors:

1) Tightening of ecological standards, improvement of legal regulations, simplification administrative procedures at national and international level, and incentives financial inducing entrepreneurs to pro-ecological activities.

- 51% of entrepreneurs believe that tax breaks, subsidies and loans are the best measures to support investment in energy efficiency;
- 49% of enterprises that already offer ecological products and services declare that financial incentives would help them most;
- 31% of enterprises that do not currently have such an offer believe they have financial incentives would make it easier for them to start such an activity<sup>69</sup>.

## 2) Rapid development of markets for green goods and services,

- The EU organic market has quadrupled in the last 10 years.
- The "Eco" leaders are the United States, Germany and France.
- The share of organic food in total food sales: in Poland 0.3%, in Germany, France, Denmark, Austria and Switzerland from 4 to 8%.
- The European Commission undertakes a number of actions to improve the quality and promotion of organic food, strengthen consumer confidence in organic products and remove obstacles to the development of organic farming<sup>70</sup>.

# 3) Increasing interest in obtaining ecological products by consumers, and thus in their production by entrepreneurs.

- Creating a "green" image and introducing ecological solutions is important part of the corporate strategy.
- According to the principles of corporate social responsibility, it is an obligation of entrepreneurs, but usually it turns out to be profitable in terms of business and helps in building a positive image.
- The development and marketing of innovative "green" solutions is also included way to stand out from the competition.

 <sup>&</sup>lt;sup>69</sup> Flash Eurobarometer 342 "Small and medium-sized enterprises: towards energy efficiency and green markets ", 2012
 <sup>70</sup> <u>https://www.teraz-srodowisko.pl/aktualnosci/zielone-inwestycje-MSP-raport-9184.html</u>



<sup>&</sup>lt;sup>66</sup> Zielona energia w MŚP Pod Lupą, Special report 2020, <u>https://www.teraz-srodowisko.pl/media/pdf/aktualnosci/9184-raport-zielona-energia-MSP.pdf</u>

<sup>67</sup> Ibidem.

<sup>68</sup> Ibidem



#### SME eco-awareness in Poland

- In theory 93% of companies believe that their industry has a big impact on the ecology;
- In practice, only 46% undertakes eco-activity in his company;
- 96% companies implement eco-measures due to applicable legal regulations.

#### Green energy in SMEs

- As much as 95 percent SMEs do not use renewable energy;
- 4% of companies invest in photovoltaics, 8% plans it in the future, including 30% medium-sized enterprises;
- Initial installation cost, according to 87% companies is the biggest barrier to investment in renewable energy.

#### Eco car fleet in SMEs

- Only 1% of companies have hybrid cars, 6% has them planned. In medium-sized companies, 11% and 16% are planning.
- The minimum range of an electric car should be between 500 and 700 km, to consider buying it;
- By 25-30% more compared to traditional drive, SMEs would be able to pay for an electric car.

#### SME eco-strategies

- Eco-skeptics constitute the largest group of SMEs 38% companies implement eco-activities because they must;
- Ecoresponsible is 17% of companies they care about the atmosphere, because it is worth it and so it should be<sup>71</sup>.

**Micro companies (1-9 employees)** are least aware of the impact on the environment and are the least likely to undertake activities in this regard:

- The main one in eco-measures motivation is compliance with regulations and regulations;
- The main barrier to investing in ecology are more work related to caring for environment;
- Simplify implementation procedures ecology would facilitate the implementation of eco solutions;
- This group most often claims to be eco-initiatives can bring financial and image benefits<sup>72</sup>.

**Small companies (10-49 employees)** have a greater than average survey average awareness of the impact on environmental protection and take action more often in this area.

- The main one in eco-measures their motivation is exploitation actions taken in building the image and compliance with regulations;
- Among the barriers to investing in ecology the biggest challenge is related labour input with care for the climate;
- The implementation of eco-solutions would make it easier for small businesses subsidies and allowances and increasing the importance of ecology in customer purchasing decisions.

**Medium companies (50-249 employees)** are the most aware environmental impact. Most often they also take ecomeasures:

• The group of medium-sized entrepreneurs gives the lowest ratings the state of the natural environment;

<sup>&</sup>lt;sup>72</sup> Zielona energia w MŚP Pod Lupą, Special report 2020, <u>https://www.teraz-srodowisko.pl/media/pdf/aktualnosci/9184-raport-zielona-energia-MSP.pdf</u>



<sup>&</sup>lt;sup>71</sup> <u>https://www.teraz-srodowisko.pl/aktualnosci/zielone-inwestycje-MSP-raport-9184.html</u>

- Among the barriers to investing in ecology most often indicate higher material costs organic used in production;
- Medium-sized companies invest much more often into renewable energy and electromobility;
- Medium-sized companies, less often than micro and small, say that their industry has a big impact on ecology.



Source: <u>https://pixabay.com/pl/photos/papieru-biznesu-finans%C3%B3w-dokument-3213924/</u>

Companies from the SME sector have a smaller impact on the environment than they could. They do not always have the funds to do so, and they lack fundamental knowledge.

### The government is the leader of (r) evolution ecological in Poland

Micro, small and medium-sized entrepreneurs see an important role, which should be played by the public administration in (r) ecological evolution. More than half of those asked believes that it is the government that has the greatest influence to improve the condition of the natural environment in Poland.

First of all, because it implements regulations. A SME they are driven more by what the regulations require than social responsibility. Almost every fourth the business owner claims that this is the role of consumers. Only every seventh entrepreneur point to international organizations dealing with ecology.

### **Conclusions for the future**

The image aspect will also contribute to "greening" the business. Today, more and more customers are looking for services and products that are ecological and made of healthy products, with care for the environment. Corporate social responsibility, i.e. CSR, is also gaining importance. Taking into account that in various spheres of business, Poland follows the paths that were previously paved in Western Europe, it can be expected that in the coming years having an "eco" badge will be not only a way to build a competitive advantage, but even a necessity. This is demonstrated by today's popularity of ecological food, beverages, clothes, cosmetics, but also more valuable products, such as cars and finally home.

However, intensive research is underway to lead to a technological breakthrough. At the same time, the EU takes care to ensure adequate financing of green projects. By state the findings in Brussels when our report was written, in 2021-2027 Europe 30% of budgetary resources and programs aid aimed at economic reconstruction after coronavirus is to be allocated to climate protection.

In the case of Poland, all EU funds from the future perspective the budget will amount to EUR 125 billion, and those earmarked for protection climate and environment - around EUR 37 billion. This is a huge amount that spending will mean a strong boost to the domestic economy.

There is great hope that thanks to EU funds in the coming years will also see more effective support tools for companies, both in the green energy sector and, for example, in the green sector transport. Both are used by individual users and companies.





## "Green Thinking Entrepreneur Youth" 2019-3-TR01-KA205-080177 Intellectual Output 1 (IO1): Environmental-climate sensitivity analysis reports – Annex Portugal –

One of the major challenges facing the citizen of the 21st century is the conservation of the environment, and there is an increasing need to safeguard intergenerational equity based on a model of sustainable development. At international level, these concerns have been echoed in the multiple summits that have been realized and that have resulted in important resolutions, not always met, such as: the Convention on Climate Change, the Convention on Biological, the Rio Declaration, the Declaration on Forests and Agenda 21, which has contributed to the identification of problems and for the development of an increasingly comprehensive environmental awareness. The objective of Environmental Education for Sustainability is to promote values, change attitudes and behaviors towards the environment, in order to prepare young people for the exercise of a conscious, dynamic and informed citizenship in the face of current environmental problems. To this end, it is intended that students learn to use

knowledge to interpret and evaluate the surrounding reality, to formulate and debate arguments, to sustain positions and options, fundamental capabilities for active participation in informed decision making, in a democratic society, given the effects of human activities on the environment.<sup>73</sup>

**1.** Number of existing institutions (business/NGO/public/youth groups/schools) in your region and country? The population in Portugal, in 2019, according to the National Institute of Statistics (INE), was the following:

Data		Resident population (No.) by Place of residence (NUTS - 2013), Sex and Age group; Annual		
reference	(NUTS - 2013)	Sex	Sex	Sex
period		MF	MF	MF
		No.	No.	No.
	Portugal	10.295,909	4.859,977	5.435,932
	Continente	9.798,859	4.623,424	5.175,435
2010	Tâmega e Sousa	415,989	200,088	215,901
2019	Amarante	53,193	25,136	28,057
	Região Autónoma dos Açores	242,796	117,884	124,912
	Região Autónoma da Madeira	254,254	118,669	135,585

As shown on the table above, Tâmega e Sousa region has 4,04% of the total population in Portugal and Amarante represents 12,79% of the population of the region.

According to INE, in 2018, there were a total of 1.278,164 businesses registered in Portugal and 40,071 In the region of Tâmega e Sousa. This represents that for every 1,000 people in Portugal there are 124 companies, in Tâmega e

<sup>&</sup>lt;sup>73</sup> <u>https://www.dge.mec.pt/sustentabilidade-para-educacao-ambiental</u>



Sousa region there are 96 companies for every 1,000 inhabitants. These businesses are distributed, according to the sectors of activity, as shown in the following tables:

Business in Portugal:

Total	1.278,164
Agriculture, farming of animals, hunting and forestry	132,887
Mining and quarrying	1,022
Manufacturing	68,214
Electricity, gas, steam, cold and hot water and cold air	4,365
Water collection, treatment and distribution; sewerage, waste management and remediation	1,280
Construction	85,311
Wholesale and retail trade; repair of motor vehicles and motorcycles	217,831
Transportation and storage	25,592
Accommodation and food service activities	113,191
Information and communication activities	19,116
Real estate activities	45,510
Consultancy, scientific and technical activities	128,466
Administrative and support service activities	181,109
Education	57,895
Human health and social work activities	98,006
Arts, entertainment, sports and recreation activities	36,689
Other service activities	61,680

#### Business in Tâmega e Sousa region:

Total	40,071
Agriculture, farming of animals, hunting and forestry	4,447
Mining and quarrying	63
Manufacturing	5,029
Electricity, gas, steam, cold and hot water and cold air	108
Water collection, treatment and distribution; sewerage, waste management and remediation	42
Construction	4,063
Wholesale and retail trade; repair of motor vehicles and motorcycles	8,866
Transportation and storage	618
Accommodation and food service activities	2,923
Information and communication activities	196
Real estate activities	982
Consultancy, scientific and technical activities	2,599
Administrative and support service activities	3,134
Education	1,822
Human health and social work activities	2,664
Arts, entertainment, sports and recreation activities	639
Other service activities	1,876



Regarding education, there are a total of 8,367 school institutions from which 5,735 are public and 2,632 are private in Portugal. In Amarante there are 41 schools, from which 33 are public and 8 are private.

Data	Geographic	Type of establishment	Non-tertiary educational institutions (No.) by Geographic localization (NUTS - 2013), Type of establishment and Nature of institution: Annual		
reference	localization		Nature of institution		
period	(NUTS - 2013)		Total	Total	Total
			No.	No.	No.
		Total	8,367	5,735	2,632
		Pre-school	2,924	1,123	1,801
		Primary and lower secondary school	4,467	4,030	437
	Portugal	Upper secondary school	333	309	24
		Primary and secondary school	369	232	137
		Artistic school	12	7	5
		Professional school	262	34	228
	Tâmega e Sousa	Total	364	309	55
		Pre-school	108	68	40
		Primary and lower secondary school	220	215	5
2018 / 2019		Upper secondary school	12	12	-
		Primary and secondary school	15	11	4
		Artistic school	-	-	-
		Professional school	9	3	6
		Total	41	33	8
		Pre-school	16	11	5
		Primary and lower secondary school	21	21	-
	Amarante	Upper secondary school	1	1	-
		Primary and secondary school	2	-	2
		Artistic school	-	-	-
		Professional school	1	-	1

In 2018/2019 we had 1.618,609 students in all Portuguese schools, from kindergarten to high school, 64,332 of them were in Tâmega e Sousa region and 8,294 were in Amarante.

There are 287 universities in Portugal, 183 are public and 104 are private. There are 2 higher education institutions in Tâmega e Sousa region, 1 public and 1 private. They have a total of 385,247 students, on a national level, 327,155 are Portuguese and 58,092 are foreigners.

In Tâmega e Sousa region we have 1,676 students, 1,599 are Portuguese and 77 are foreign.<sup>74</sup> For this research we focused on Non-Governmental Organizations for Development (NGOD) and Non-Governmental Organizations for the Environment (NGOE) since they are the most relevant ones for this project. We found 39 NGOD and 100 NGOE in Portugal, 2 of them are based in Tâmega e Sousa region.

There are 91 Youth associations registered in Portugal according to the National Registration of Youth Associations (RNAJ). In the public field, there are 601 institutions with 17 related with environment, 13 related with education and 14 related with Agriculture, Forests and Rural Development.

<sup>&</sup>lt;sup>74</sup> Data from National Institute of Statistics (INE)



From the total companies in Portugal, we focused on the ones more related with the project and found that we have 107 companies in production of electricity of water power origin, 175 in production of electricity of thermal origin, 3,946 in production of electricity of wind, geothermal, solar and other origin; regarding water collection and treatment there are 80 companies, 116 companies work in waste collection and treatment and 473 in materials recovery. In Tâmega e Sousa region we have 6 companies in production of electricity of water power origin, 3 in production of electricity of thermal origin and 97 in production of electricity of wind, geothermal, solar and other origin; 4 companies in water collection and treatment, 3 in waste collection and treatment and 18 in materials recovery.

In a governmental level, there are 17 institutions related with the environment and the main one is the Ministry of the Environment and Climate Action that has the mission to formulate, conduct, implement and evaluate environmental policies, spatial planning, cities, urban, suburban and road passenger transport, mobility, climate, forestry, nature conservation, energy, geology and forests, with a view to sustainable development and social and territorial cohesion. There is a public institute that works within the scope of this Ministry called the Portuguese Environment Agency (Agência Portuguesa do Ambiente – APA). Their mission is to propose, develop and monitor, on an integrated and participated manner, the public policies for the environment and sustainable development, in close cooperation with other sectoral policies and public and private entities. They intervene in various areas, like air, water, waste, climate changes, sustainable development, environmental economics and green growth, etc.. We found 3 schools related with Environmental education: Escola Secundária Professor Doutor Flávio F. Pinto Resende and Escola Profissional de Agricultura Desenvolvimento Rural de Marco de Canaveses where there is the course of Technician of Environmental and Rural Tourism, and Escola Secundária de Amarante where there is the course of Technical Installer of Thermal Systems of Renewable Energies.

From the 100 Non-Governmental Organizations in Portugal, we found that, in 2018, they have developed the following activities in the environmental domain:

Data reference period	Environmental domain	Activities performed by NGOs for environment by Geographic localization (NUTS - 2013), Environmental domain; Annual Geographic localization (NUTS - 2013)		
		Portugal	Portugal	
		No.	No.	
	Total	11,137	5,222	
	Protection of ambient air and climate	1,717	840	
	Wastewater management	907	803	
	Waste management	1,322	848	
2019	Protection and remediation of soil, groundwater and surface water	1,105	773	
2010	Noise and vibration abatement	43	0	
	Protection of biodiversity and landscape	3,460	1,435	
	Protection against radiation	0	0	
	Research and development	68	38	
	Other environmental protection activities	2,515	485	

Those activities were performed in the following ways:





Data reference	Type of activity	Activities performed by NGOs for environment by Geographic localization (NUTS - 2013), Type of activity; Annual		
period		Geographic localization (NUTS - 2013)		
		Portugal	Portugal	
		No.	No.	
	Total	11,137	5,222	
	Publications, technical studies, reports	3,551	3,103	
	Training	592	140	
2018	Announcement	1,318	212	
2018	Environmental education	1,931	270	
	Conferences and seminars	501	142	
	Ecotourism/natural walks	1,381	180	
	Others activities	1,863	1,175	

## 3. Identify good practice examples (dealing with environment-climate issues) with focus on schools, mainly high and VET schools.

The climate is an important topic in Portugal, not only for the government but also for the people. Over the years many campaigns were made to promote sustainability and to raise awareness about the climate problems faced nowadays, while taking action to tackle this problem.

The companies that place packaged products in the market took action in 1996 when they created the Green Point Society (Sociedade Ponto Verde) which is a licensed waste-packing management body that promotes the selective collection, take-back and recycling of packaging waste in Portugal. They fund the municipal councils' waste collection and maintenance of recycling drop-off containers, they guarantee the recycling of separated waste, they oversee the routing of packaging to the most appropriate end use, they promote environmental education and awareness-raising for consumers via media campaigns and support for local authorities and they support research programs to foster the market for recycled materials. They also have an academy that promotes recycling in schools through a contest over the school year. This contest involves teachers and students and gives them monthly interactive and creative challenges and the creation of an Action Plan to increase the recycling objective of the school. The focus is on participation, not in the quality of the outcome since what is important is to have many people participating in it. In the end of the year there is a final quiz to help the students assess the knowledge they have gained during the year.

The Equal Food Co. is a sustainable project about food with the aim of reducing food waste, mainly in fruit and vegetables that are wasted due to their appearance and producers are forced to throw away because conventional shops do not want them. Since its creation they managed to avoid over 6 tons of fruit and vegetables from going to waste. One of the main interests in this project is to change or to help change consumer behavior since this would have the biggest impact in food waste.

In our schools there are several projects that promote sustainable and green development. The Europe's Blue Flag Association (Associação Bandeira Azul da Europa – ABAE), which is part of the Foundation for Environmental Education, FEE, promotes various projects focused on education for sustainable development and management of environmental good practices. Under this association there is the project "Eco-Escolas" that was established in Portugal in 1996. It awards a green flag to schools that follow a 7-step methodology consisting in: 1. Eco-Schools Council; 2. Environmental Audit; 3. Action Plan; 4. The Human Body; 5. Monitoring and Evaluation; 6. Community Involvement; 7. Eco-Code. They should also implement at least 2/3 of their action plan and carry out activities under the basic themes (water, waste and energy) and at least one of the themes of the year. This project has already given the green flag to over 1600 schools in the country, with 198 of them in Porto region. In Amarante there are 2 schools that have received and are maintaining the green flag for Eco Schools at the moment, one of them is a high

school. Another project they promote is the Young Reporters for the Environment (Jovens Repórteres para o Ambiente – JRA) and it contributes for the practice of active and participative citizenship, focusing on environmental journalism. The youngsters investigate and interpret environmental and/or sustainable questions relevant on a local level as if they were journalist and thus reinforcing their knowledge on environmental domain. This project is applied to school groups, from 11 to 21 years old, as well as free-lancers, from 15 to 21. Portugal was a pioneer in this project that has expanded to over 35 countries.

The Torres Vedras Municipal Council has been developing, since 2014, the School Food Sustainability Program (PSAE), which applies to all pre-school and 1st cycle of basic education. This program is based on social, economic, environmental and nutritional sustainability, promoting the quality of the meals served to each child, reflecting on their health and well-being, as well as the collaborative work between the Municipality and the associative fabric, enhancing the rationalization of resources and the local economy.

One of the Portuguese energy companies, EDP, promotes various projects for sustainable energy in schools. The main project is called Schools with Energy and its objective is to support schools in their management component and develop new skills and behaviors among young people. This involves 3 other projects, the most relevant one is Optimizing with Energy, a program for educational institutions that applies business management skills to promote saving and reducing waste.

The project ClimACT is drawn up under the priority axis "Low Carbon Economy" from Interreg SUDOE program and aims to support the transition to a low carbon economy in schools and has four main lines of action: develop decision support tools, generate new business models, create educational tools and establish a thematic network. It is a partnership between Portugal, Spain, France and Gibraltar that was implemented in a total of 39 schools and institutes, 9 of them in Portugal and it includes primary, high schools and universities.

Equação, Cooperativa de Comércio Justo (Fair Trade cooperative) is promoting organic, local and fair-trade principles and products at schools by organising awareness sessions since 2007. Till the moment has already developed more than 500 sessions, mainly in the North of Portugal and reached around 40000 students, mainly from VET and High schools.

### 4. What number of young people we expect to reach/involve (directly and indirectly) with the project?

We expect to involve directly 200 youngsters in project's activities and also reach indirectly around 20,000, mainly by using our media tools.

5. From those young people how many can be given specific training about environmental-climate issues made at your green thinking centers?

We the ones mentioned above we expect to give specific training to at least 100 (presential) and 200 (online).

6. Identify potential stakeholders that can be our partners in those training about environmental-climate issues made at your green thinking centers?

In Amarante region there are some companies that can be potential partners in trainings about environmentalclimate awareness, namely:

- Officina Noctua: Is a company that works with handmade silkscreen, design, illustration, rebuilding of antics and bird observation. They give workshops on how to make handmade silkscreen, organize second hand markets and repair old furniture back to their original glory, always trying to reuse as much as possible and minimizing their waste. Most recently they have been developing a project of bird watching in the surrounding area and organize walks on the mountains for this activity.
- Equação, Crl: Is a cooperative that focus on fair trade and local and biological products. They were the pioneers of fair-trade in Portugal, opening the first ever fair-trade shop in the country. Nowadays they still promote the sale of fair-trade products and support local farmers with volunteering and workcamps as well as by doing a bio-

fair every Saturday to sell the products of the bio-farmers of the region. They also do fair-trade workshops in schools all over the country to teach the youngsters about the values and principles of it.

- **Revolução das Minhocas**: Is a company that works on the agricultural and waste field, using an innovative way to use waste and worms in order to create a powerful fertilizer. With the use of specific worms and creating a special environment for them, it is possible to reuse all the organic waste produced by someone in order to create a fertilizer without having any bad smells from the trash and with little to none maintenance.
- **Fernando Paiva**: Is the first biodynamic wine producer in the country. He is a retired history teacher that decided to use his family land in order to produce wine in the most natural way, with as less chemicals as possible, using a biodynamic way and following the moon calendar.
- Associação Gatilho: Is a social-cultural organization that promotes art in Amarante. They have an arts academy, mainly focused on kids but opened for everybody, that aims to help artists grow by giving them art lessons and promoting exhibitions in their center. They also have a garden with orange trees that is being brought back to live with the help of international volunteers and gives a friendly green space for the association in the middle of town.
- Floresta Viva: Is a mushroom producer that manage the full process of the production, from the extraction of the seed, to the inoculation and finally to the growing and harvesting of the mushrooms. They use logs of oak trees for the production, control the full process and minimize all their waste, reutilizing all the materials during the process, from the sawdust they get when cutting the logs and making holes they use for the development of the fungus seeds, the leftover wood or the one that is not in perfect condition to grow mushrooms they resell as firewood, etc. They also work in partnership with a university on a study about medical uses for mushrooms.
- **Cooperativa Biovilla**: Is a consumer Cooperative for Sustainable Development, which has 18 cooperators and was founded on February 12, 2010. Biovilla is a Sustainability and Permaculture project that aims to be a place for experimenting with technology, management models, and a holistic design for sustainability supported by (inter) national best practices both at the company and community level. In practice, biovilla is a project of Nature Tourism, sustainable agriculture and Education for Sustainability that materializes in the Serra da Arrábida Natural Park.
- Associação Geota (Study Group on Spatial Planning and Environment): Is a non-governmental organization for the environment (ONGA) of national scope, with a status of Public Utility. It was legally constituted in 1986, but its existence as a reflection and education group in the environmental area dates back to 1981. GEOTA's mission is to defend the environment and promote sustainable development, in terms of education, information, professional training, political reflection and intervention, development cooperation and actions to solve problems specific environmental issues.
- Horta FCUL: Created in October 2009 by a group of science students, which would later, in collaboration with the cE3c Research Center, start the Permalab Project, which focuses its activity on a campus space provided to promote permaculture practices, a social activity in which the science community is invited to promote agricultural practices thought and conceived in a systemic way based on ecological principles, in order to promote a sustainable future. PermaLab is thus an ecosystem open to innovation, centered on its users, integrating research and innovation processes proposed by permaculture in a transdisciplinary and transformative action-research environment with public-private-personal partnerships. As permaculture is a science-based planning system that mimics ecological patterns and relationships, PermaLab aims to assess and

create scientific evidence for nature-based solutions, contributing to the regeneration of the university campus and mobilizing the science community.

The demonstration and innovation potential of this initiative, and the technical-scientific monitoring of it, are clearly stated, through the recent publication of a study led by a PhD student in Sciences, which aimed to cultivate a commercial hybrid variety and a variety of open pollination of corn, based exclusively on municipal waste and green waste as sources of nutrients, and subsequently measuring yield and mineral nutrition as a contribution to sustainable urban agriculture.

- Escola Profissional de Agricultura e Desenvolvimento Rural de Marco de Canaveses (EPAMAC): Is a VET school with 30 years of existence training competent professionals in the area of Agriculture and Rural Development. In addition to quality training, the school offers food, accommodation and transport to the young people who attend it. EPAMAC is inserted in a farm with 85 hectares, located in the municipality of Marco de Canaveses, 18km far from Amarante. Takes 3 professional courses at Level IV (secondary): Agricultural Production Technician, Environmental and Rural Tourism Technician and Equine Management Technician, as well as an Education Training Course (Level III- basic) for Gardening Operator.
- 7. How are environmental-climate competences or the acquisition of environmental-climate awareness regulated in the respective framework curricula of schools and universities?

It is necessary to foster the environmental education in Portugal and integrate it in the civic and educational dimension of the Portuguese school structure.

There is still a long way to walk regarding environmental education in Portugal. They are looking for a way to intensify the role of the school in this subject, so they are integrating this topic in different subjects in school, investing in the training for citizenship.

In 2017 the National Strategy for Environmental Education (ENEA 2020) was approved with the objective of establishing an effective compromise in the construction of a solid paradigm of environmental education. The intention is to have everybody join in a collaborative form for the protection of the environment in all dimensions of the human intervention.

This strategy has 5 basic principles:

- Educate having in consideration the international experience;
- Educate having in consideration the national experience;
- Educate for the empowerment of the society towards the environmetal chalenges;
- Educate for sustanability;
- Educate for an intervining citizenship.

To achieve this they are using different activities such as sensibilization in the rural areas, sessions and workshops in schools, support in the realization of school projects, actions related with endangered species, etc.. <sup>75</sup>

Even though this is being done in every school year in different subjects, there is also an association called ASPEA (Portuguese Association for Environmental Education) that works closely with the schools with focus in 4 topics, regarding training an awareness: Continuous training of teachers; sensibilization sessions about environment; cooperation with municipalities and other local government bodies/projects of environmental education; training of environmental monitors.<sup>76</sup>

### 8. Main domains and job opportunities in your region related to environmental-climate issues?

In Tâmega e Sousa region there are a lot of mountains, forests and rivers. This gives the conditions to create a lot of jobs related with environment. One of them is the wind farms that can be seen all over the mountains in the

<sup>&</sup>lt;sup>76</sup> https://aspea.org/index.php/pt/o-que-fazemos/formacao-e-sensibilizacao



<sup>&</sup>lt;sup>75</sup> https://www.e-konomista.pt/educacao-ambiental/

region. They are managed by a company called ENERCON and they are responsible for building and maintenance of the wind turbines. There is cooperative of renewable energies called Cooperativa Coopérnico that alia to its social nature the support to projects of solidarity, educational or of environmental protection. They have created a large community of citizens and companies willing to contribute to a new energetic, social and business model, they applied part of their savings into investments in small renewable energy projects, the electricity produced by them is integrated into the electricity grid and serves to supply families and businesses and they generate economic benefits, from the sale of the produced electricity, as well as environmental benefits with the production of clean electricity. Everyone can become a member and local groups work to give more visibility to the projects and to help organizations business or induvial interested in building renewable energy systems and having their energy provided by a cooperative that is 100% renewable and at a competitive price.

There is also a growing of a new type of businesses and workers, mainly in the rural areas and in the parks, called Green Entrepreneurs. Greentproject.eu<sup>77</sup> defines a green entrepreneur as "someone who starts and runs an entrepreneurial venture that is designed to be green in its products and processes from the very moment it is set up."

Whilst they can and some certainly do, green startups do not have to solely specialize in sustainability. Rather, being a green entrepreneur means that whatever the choice of business field, sustainability will be embedded into every element of the business and be a key driving factor for all decision making.

There is often still misconception around what it means to be sustainable. There is a growing understanding that it takes more than just changing light bulbs and recycling to be a sustainable business. But the more practical knowledge and experience that a green entrepreneur has about sustainability and how it plugs into business, the better.

It has never been clearer that jobs in sustainability are growing and necessary. With a visible shift to include sustainability into many different career types, this could be a likely indication that sustainability will become synonymous with every job description and business type in the future.

With an increasing in rural tourism and in development of sustainable and environmentally friendly businesses many people are repairing old houses and the lands around them in order to create a peaceful place for people to enjoy their vacations away from the big cities. They offer seasonal jobs as well as volunteering opportunities. There is also companies that work in sustainable tourism in the forest, with hikes across the old roman paths and the water trails, birdwatching excursions and water sports such as kayak.

There is also a growing number of biological farmers, with 28 certified bio farmers in Amarante alone, this is showing an increasing awareness about the environment and a bigger focus on sustainable development.

# 9. What incentives, competitions, tenders, rewards are available at regional or supra-regional level to promote environmental awareness, sustainable development and to finance for green entrepreneurs?

In Portugal the state and the organizations promote environmentally friendly approaches and reward those in different ways.

Regarding State incentives, we have:

- Inovation Support Fund (FAI) for inovation, tecnological development and investment in the area of renewable energies and energetic eficiency, acording to the goals defined by the National Plan of Action for Renewable Energies, the National Plan for Energy Eficiency and the national energy strategy.
- Energetic Efficiency Fund (FEE), a financial instrument capable of financing programs and policies acording to the National Plan for Energy Eficiency.
- Operational Program for Sustainability and Efficiency in the Use of Resources (PO SEUR) contributes to prioritize a sustainable growth, answering the chalenges of a transition to a low carbon economy, with a more efficence usage of resources.

<sup>77</sup> http://greentproject.eu/wp-content/uploads/2016/01/Definition-green-entrepreneurship.pdf



- Financial Instrument For Urban Rehabilitation And Revitalization 2020 (IFRRU2020) is a financial instrument with the aim of revitalizing cities, supporting the physical revitalization of space dedicated to disadvantaged communities and supporting energy efficiency in housing.
- Efficient Home 2020 (Casa Eficiente 2020) is directed towards granting loans on favourable terms to operations that promote the improvement of the environmental performance of private housing, with special focus on energy and water efficiency, as well as urban waste management.
- Plan To Promote Efficiency In Electrical Energy Consumption (PPEC) promotes measures aimed at improving the efficiency of electricity consumption, through actions undertaken by the various agents in the sector (from suppliers to consumers).
- Innovation, Technology And Circular Economy Fund (FITEC) supports policies to enhance scientific and technological knowledge and its transformation into innovation, stimulates cooperation between Higher Education Institutions, Technological Interface Centres (CIT) and the business fabric, and enables a more efficient use of resources, namely through material and energy efficiency.
- Environmental Fund (FA) supports environmental policies for the pursue of objectives of sustainable development, contributing to the fulfillment of the objectives, the national and international compromisses, specifically the ones related to the climate change, the hidric resources, the waste and the conservation of nature and biodiversity.

On a European level, there are also incentives that can be taken in Portugal, namely:

- European Strategic Energy Technology Plan (SET PLAN) is the EU energy and climate policy research and innovation pillar since 2007. Recently revised to align effectively with the EU Energy Union's research and innovation priorities. It coordinates research and innovation activities in EU Member States and other participating countries (Iceland, Norway, Switzerland and Turkey). It helps structure European and national research programmes and triggers substantial investments in common priorities in low carbon technologies.
- Horizon 2020 is a financial instrument implementing the Innovation Union, a flagship initiative of the Europe 2020 strategy, which aims to ensure Europe's global competitiveness. It aims to ensure that Europe produces world-class science, remove barriers to innovation and make it easier for the public and private sectors to work together on innovation.
- European Regional Development Fund (ERDF) aims to strengthen economic and social cohesion in the European Union by correcting imbalances between regions. It concentrates investments in several priority areas, including a low carbon economy.
- European Fund For Strategic Investments (EFSI) is one of the three pillars of the Investment Plan for Europe and aims to overcome current market failures by addressing market gaps and mobilizing private investment. It helps finance strategic investments in key areas such as infrastructure, research and innovation, education, renewable energy and energy efficiency, as well as risk financing for small and medium enterprises.
- NER 300 is a financing program for innovative low carbon energy demonstration projects. Catalyst program for the demonstration of environmentally safe carbon capture and storage and renewable energy technologies on a commercial scale within the European Union.
- LIFE+ Climate Action is directed to support climate change mitigation and adaptation projects.
- Innovfin Energy Demo Projects is funding for commercial scale demonstration projects in the areas of energy system transformation, including, among others, renewable energy, intelligent energy systems, energy storage, capture and storage or carbon capture and use.
- ELENA provides subsidies for technical assistance focused on implementing energy efficiency, renewable energy and urban transportation projects and programs.





In terms of rewards, we have:

- European Green Leaf, a prize to cities/municipalities with populations between 50,000 (fifty thousand) and 100,000 (one hundred thousand) people that recognizes the commitment to improve environmental outcomes, with particular emphasis on efforts that generate green growth and new jobs.
- ECOXXI Green Flag, a sustainability education program, implemented in Portugal by ABAE since 2005. It is mainly aimed at technicians and decision makers from municipalities considered privileged agents to promote sustainable development at the local level. Participation in the Program is voluntary, and each municipality is responsible for deciding whether to submit its application. Any municipality wishing to try the "ECOXXI tool" can register on the platform. We are a family owned and operated business. The Green Flag is an aggregating concept that identifies, recognizes and awards municipalities (ECOXXI), parishes (Eco-Freguesias XXI), as well as tourist destinations (Green Destinations), with good sustainability practices and policies and actions in around 21 indicators and more than 65 sub-indicators. We are a family owned and operated business. Turismo de Portugal is part of the National Commission, being a specialized jury for Indicator 21 "Sustainable Tourism".
- Blue Flag Program (ABAE) has structured a new competition to reward the good environmental practices of the concessionaires that operate in classified bathing areas, since these agents are fundamental for the good functioning of the beaches, for the maintenance of the surrounding areas and for promoting sustainable behaviors.
- EU eco-label, a European label that applies to products with exceptional environmental characteristics, which meet the criteria required by the EU Ecolabel regulation. Today, more than 37,000 products sold on the European market carry the EU eco-label, which means that they meet strict environmental criteria.
- Green Key is an international award coordinated by the Foundation for Environmental Education (FEE) and is developed in 66 countries, currently with a network of 3,100 awarded establishments. The program attracts national and international tourism market following the global trend of green marketing and also motivates staff towards the objectives defined by the establishment. iT aims to promote Sustainable Tourism through the recognition of tourist enterprises, local lodging, camping sites, conference centers and restaurants that implement good environmental and social practices, that value environmental management in their establishments and that promote Environmental Education for Sustainability.






# "Green Thinking Entrepreneur Youth" 2019-3-TR01-KA205-080177 Intellectual Output 1 (IO1): Environmental-climate sensitivity analysis reports – Annex Romania –

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- A) Number of existing employment agencies/NGOs/public/youth groups/schools
- 1. Employment agencies/NGOs/public/youth groups



Country



Figure 1: Number of Romanian associations with activity in environmental protection field (source: <u>https://www.protectiamediului.org/</u>)

In Romania are around 223 associations (figure 1) which activate in field of environmental protection (according to <u>https://www.protectiamediului.org/</u>), 10% (22) of the total number being in the Western part of the country (*Arad*, Timiş Bihor county). Several well-known international organisations are represented in our country. Those and also Romanian are developing promising activities for environment safety and security (Agent Green, WWF Romania, Let's Do It Romania, Greenpeace Romania, Asociația Kogayon, etc.). In the last years their visibility has increased also via the online social media, a large number of volunteers attending specific actions as afforestation or land greening.

In 2016 the National Agency for Community Programs in the Field of Vocational Education and Training, implemented the Project "Young people and volunteering for a cleaner environment" (ERASMUS+, no. 2016-1-RO01-KA105-023889). The coordinator was "Education for the community" Association Teregova, Caraș-Severin, with partners from: Bulgari, Hungry, Cech Republic and Spain. The project involved the participation of 50 youngers, 10 from each country, with age between 16-25 years. The proposed activities focused on developing a conscious attitude of environmental protection, of civic spirit and involvement in volunteer actions for environmental protection, forming skills for the creative use of recycled materials, enhance confidence and self-esteem, along with the opportunity to live a unique intercultural and entrepreneurial experience.

Another example is "A greener life", project approved by The European Community through the A.N.P.C.D.E.P. in Romania, which started in March 2014. The target group consists of 20 young people from urban and rural areas, aged between 15-20 years.

Their objectives were to motivate and involve the participants in environmental protection and sanitation activities, to develop the degree of information on environmental protection, to increase the level of responsibility regarding the surroundings, to raise the health standards of the people from the two communities involved in the project, to encourage and elevate the awareness among young participants in the two localities, for the initiation of projects and programs aimed at promoting a healthy lifestyle, until the end of the project, to increase the degree of tolerance, respect, empathy among the participants.

Some important projects implemented in field of environmental protection are summarised below: (source: <u>http://apmsb.anpm.ro/programe-proiecte-relatii-internationale</u>):

- Managementul conservativ al siturilor de importanţă comunitară "Insulele stepice Şura Mică-Slimnic", "Movilele de la Păucea" şi "Mlaca Tătarilor (Conservative management of the sites of community importance "Şura Mică-Slimnic steppe islands", "Movilele de la Păucea" and "Mlaca Tătarilor);
- Proiect Norvegia "Parteneriatul pentru un mediu curat, reducerea deşeurilor şi dezvoltare durabilă în Regiunea
   7 Centru" (Norway Project "Partnership for a Clean Environment, Waste Reduction and Sustainable Development in Region 7 Center");
- 3. Proiect BioREGIO Carpathians;
- 4. Proiect LIFE+ "Conservarea acvilei țipătoare mici în Romania" (LIFE + project "Conservation of the Lesser Spotted Eagle in Romania"):
- Proiectul CLEVER Cities "Proiectarea participativă a soluțiilor ecologice ajustate la nivel local pentru regenerarea cu valoare adăugată, integrată din punct de vedere social în Orașe" finanțat prin Programul Orizont 2020 (CLEVER Cities project "Participatory design of locally adjusted ecological solutions for value-added regeneration, socially integrated in Cities" funded by Horizon 2020);
- CAMARO-D "Cooperare pentru practici avansate de management a impactului utilizării terenurilor asupra regimului apei în bazinul hidrografic al Dunării (CAMARO-D "Cooperation for advanced land use management practices on the water regime in the Danube river basin");
- 7. Project WOLFLIFE-LIFE13NAT/RO/000205 (WOLFLIFE aims to implement best practices for the conservation of wolves (Canis lupus) in the wild, maintain a healthy and viable wolf population in the Eastern Carpathians, but also promote better wolf-human coexistence).





Figure 2: Number of schools depending on the administrative organization and type (source: <u>https://www.siiir.edu.ro/carto/#/statistici</u>)

Figure 3: Students repartition in non-university level (source: <u>https://www.siiir.edu.ro/carto/#/statistici</u>)



Figure 4: Number of students at national level and at "Aurel Vlaicu" University of Arad





As mentioned, in the examples above, the age of the volunteers involved in environmental protection programs or projects varies between 15-26 years old. In our particular case, in the UAV university system, those approximative 5,800 students are the age of 18-24 years old.

# B) Actual stage of environmental information among the youngers

To determine the present level of knowledge regarding the environment and climate changes, a questionnaire was applied to the students from our university. This represents a preliminary investigation in the project direction to enhance the information level in the field. The investigation was made face-to face, using a printed a set of questions. In the future is intended to extend the number of participants, in order to have an extend map of the information's owned among the youngers. The form was composed of 9 specific questions and 4 generals, of multiple-choice type.

Figure 5: Participants gender



The participants were aleatory selected, 59,1% being female and 49% male.

# Figure 6: Participants age distribution map



As seen in figure 6, almost 70% of the participants are in the age range of the project focus group. To achieve the project objectives, it is necessary to determine the youngers source of regarding the targeted issues.



### Figure 7: Principal source of information

# What are your main sources of information on climate change and the environment?



As seen in figure 7, all participant uses the internet as source to learn about the environmental issues, for half of them, this being the only root. In the presented conditions using the social media and the online dissemination, the focus group will be very large, considering that the project addresses not only to the persons only involved in the school system, but also to the one which are employed and are in the phase of lifelong-learning.

The activities proposed by the project will contribute to the personal formation using nonformal educational system. The culture of voluntary is developing more and more in our country, contributing to the formation of intellectual and emotional abilities. Through such activities the youngers will become more tolerant with each other and the nature, will learn how to integrate the classical activities in the modern society without or with less environment damage.

### C) How many young people can be given training in green thinking centers (estimation)

The activities in the green thinking centers are possible to be made in the face-to-face or on-line mode, through lectures.



Many countries have favourable environmental conditions for agricultural production, physical and psychical human health development. In the last decade the natural balance has been negatively influenced through different industrial activities and/or human behaviour. These trends need to be stopped or at least slowed down to reduce



at minimum level the all-negative technological impact to the environment. Awareness actions of the population relating to the surroundings problems generated by different activities could be a way to limit and hopefully contribute to the nature regeneration and biodiversity conservation.

Suggestion of some possible ecological activities could improve the natural conditions. For example, to limit the negative impact of intensive phytosanitary treatments, biological pest control and the replacement of chemical fertilizers with organic matter (compost), should be promoted. In order to avoid wasting water resources and overexploiting the limited resources, it is advisable to adapt an irrigation and cropping systems. To reduce greenhouse gas emissions, thus contributing to climate change mitigation, it is necessary to promote the reduction of fossil fuel consumption, as well as the use of alternative energies in the sector.

An ecological or environmental education, contributes to the development of the awareness and sense of responsibility of all people towards the environment and its problems. It also aims at assimilating knowledge, forming desirable attitudes and behaviours, clarifying values, as well as a practically effective approach. Its role is obvious, it focuses on shaping the future citizen able to form an objective point of view on the surrounding reality, to encourage him to participate, thus becoming aware of the future and the fact that the life of tomorrow's generations depends to a large extent on his options. This is an education through and for values, which can take concrete forms of achievement, at different levels of education, delivering informational content in a transdisciplinary way, in a formal or non-formal context.

In the next years, an important role on the jobs market will be related to the one involving the green jobs domain. They all must participate to environment sustainability through restore and preservation, contributing to ecosystems protection, limitation of greenhouse gas emissions, and energy efficiency. Such goals could be achieved by services and goods production which have a positive impact on the environment: green houses, ecological transportation, water consumption reduction, recycling.

At European level in 2020 foundations have been laid to recognize the central role of the transition to a green, resource-efficient and low-carbon economy for smart, sustainable and inclusive growth (*National Strategies for green jobs, 2018-2025*). The environment problems are caused by the inefficient use of resources, unsustainable pressure on the environment, climate change, and social exclusion and inequality.

### D) Environment-climate awareness domains

The Europe newest strategies are targeting for a sustainable economy achieved by tracking two important directions: combating climate change and energy efficiency increase. In the Small Business Act (SBA) is issued the idea of turning environmental challenges into opportunities. For that, a Green Action Plan has been proposed. It provides a clear framework and guidance on how the EU, in partnership with Member States and regions, intends to help the small and medium size business to take advantage of the business opportunities offered by the transition to a green economy.

Two main objectives are the environmental damage correction and a low-carbon economy. These may be achieved also by utilisation of eco-innovations, with the help of institutions who activate in the field of knowledge. This image must be completed by the industrial relations that facilitate cross-sectoral cooperation, these conditions allowing the emergence of eco-innovation clusters.

The transition to the green economy implies an appropriate concern focused on knowledge, research and innovation, which will create an enabling framework to promote long-term sustainable development.

Rational resources utilisation is a specific topic of the training courses within the COSME program (2014-2020). Also, in Horizon 2020, we find the idea of cross-sectoral and interregional collaboration and innovation projects carried out by small and medium size enterprises. This approach may contribute to better integration in clusters and in different value chains.

One important administrative sector is represented by the rural areas, in which the principal activity is agriculture. For that, in the future action must be considers in order to have a significant contribution on improving competitiveness and creating green jobs. Specific objectives in the European context of green topic are related to different directions targeting (National Strategies for green jobs, 2018-2025): training and development of green skills; encourage lifelong learning and vocational training in the sectors agricultural and forestry; promoting the improvement of energy efficiency skills in buildings and in major urban infrastructure systems; development of waste management skills; promoting the improvement of clean technologies and low-emission energy or zero carbon; supporting partnerships between universities and the private sector to facilitate the transition from education to employment in the field of climate change or areas related.

## E) Analysis of access to finance for green entrepreneurs

The Romanian Academy has elaborated a report in the Project "Increasing the administrative capacity of the Ministry for Business, Trade and Entrepreneurship Development and implementation of the evidence-based public policy system", SIPOCA 5 (Result R1.1.: Analysis on the evolution and current situation of the SME sector and the Romanian business environment (achievements, difficulties encountered, requirements and perspectives). Identify and propose necessary measures and actions to solve the reported problems. Based on the Principle 9: Helping small and medium enterprises to turn environmental challenges into opportunities, it has been reported that in reality the entrepreneurs have not been very concerned about sustainable development, and implementation of green solutions, energy and raw material savings. This situation conducted to the increase of their vulnerability to rising energy and raw material prices. In these conditions the traditional business models need to be changed, with ones based on green principles.

The European Commission tends to support innovative start-ups, especially in the field of eco-innovation, by facilitating market access, financing, technology transfer, organic products and sustainable businesses, etc.

On Romanian level the National Association of Ecological and Cultural Rural Tourism, member of the European Federation of Rural Tourism, a non-profit organization, which has over 3,500 members, is carrying out different activities as: participation in tourism fairs and exhibitions, promoting the potential of rural tourism, supporting newly joined pensions, organizing active promotion campaigns, organization of training programs (http://www.antrec.ro)

# F) Green Entrepreneurship Culture in the Regional Area

In 2015, the green entrepreneurship culture in Arad region was less developed. The young and medium age farmers information degree about the national agricultural programs was low. They have minimum knowledge about: cross compliance, green infrastructure, development trends, high-performance technologies, forms of association, agricultural markets, sources of financing.

### http://www.ceeweb.org/wp-content/uploads/2015/11/06-C.-A.J.-Arad-prez-Arad-29-30-oct-VS-ok.pdf

Since then, the information trend in environment protection have increased, also though the projects developed in the area. For example, in the Project Stoparea extinderii speciilor invazive de plante în Parcul Natural Lunca Mureşului (Stopping the spread of invasive plant species in the Lunca Mureşului Natural Park) 2015-2017, financed by the European Economic Area (EEA) Financial Mechanism 2009-2014, in which the University was one of the partners, were made significant contributions to the public awareness of the negative effects generated by the spread of invasive plant species and the practice of intensive agriculture, to the detriment of sustainable one, quantitative and qualitative assessment of the negative effects on agro-forestry ecosystems and habitats of community interest generated by the spread of invasive plant species in the Lunca Mureşului Natural Park, rehabilitation of some agro-ecosystems in the Lunca Mureşului Natural Park affected by the worrying spread of invasive plant species, especially Amorpha fruticose.

### https://sesil.eu/ro/proiectul/

Potential components of a green infrastructure could be represented by the: *protected areas* such as Natura 2000 sites (Câmpia Cermeiului, Câmpia Crișului Alb și Crișului Negru, Codru Mona, Dealul Mocrei-Rovina-Ineu, Defileul



Mureșului inferior, Dealurile Lipovei, Drocea-Zărand, Hunedoara Timișană, Lunca Mureșului inferior, Mlaștina Satchinez, Nădab-Socodor-Nădab, all presented in the Arad county:

https://ro.wikipedia.org/wiki/Lista siturilor Natura 2000 %C3%AEn Rom%C3%A2nia

Along with these can also be mentioned: the healthy ecosystems and naturally valuable areas outside protected areas such as floodplains, wetlands, natural forests, natural features of the landscape such as small streams, strips of forest, hedges, which can act as corridors ecological or wildlife refuges, restored habitat strips that were created with this in mind certain species, for example to contribute to expansion the size of a protected area, when feeding areas are increased, by growth or resting for those species and to help them in migration/dispersion process.

### G) References:

<u>https://www.siiir.edu.ro/carto/#/statistici</u> http://www.antrec.ro National Strategies for green jobs, 2018-2025 <u>http://www.ceeweb.org/wp-content/uploads/2015/11/06-C.-A.J.-Arad-prez-Arad-29-30-oct-VS-ok.pdf</u> https://sesil.eu/ro/proiectul/ <u>https://ro.wikipedia.org/wiki/Lista\_siturilor\_Natura\_2000\_%C3%AEn\_Rom%C3%A2nia</u>





# "Green Thinking Entrepreneur Youth" 2019-3-TR01-KA205-080177 Intellectual Output 1 (IO1): Environmental-climate sensitivity analysis reports – Annex Turkey #1 –

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- Graphic 6. Number of institutions able to perform training or seminar
- Graphic 7. % of enterprise/university able to cooperate in the green employment field
- Graphic 8. Number of young people able to inform about green employment



# A) Abbreviations

EKCYP – European Youth Policy Information Center
EU – European Union
ILO – International Labor Organization
IPCC – Intergovernmental Panel on Climate Change
MONE – Ministry of National Education
NACEUEYP – National Agency Center for European Union Education and Youth Programs
NGO – Non-governmental Organizations
OECD – Organization for Economic Co-operation and Development
TUBITAK – Scientific and Technological Research Council of Turkey
TURKSTAT – Turkish Statistical Institute
UN – United Nations
UNEP – United Nations Environment Programme
USA – United States of America

## **B)** Introduction

The main purpose of our project is to ensure the popularization of green entrepreneurship among young people, to increase the knowledge and skills of young people on green entrepreneurship and innovation, and to contribute to the creation of an ecosystem where green entrepreneurship ideas will be put into practice. Sustainability and environmental sensitivities are prioritized, it will also play a facilitating role in catching up with industry 4.0 and the information age transformation, and increasing the awareness of young people about both green initiatives and current green employment opportunities will be the most important tool in achieving our goal in the project.

With the trainings and awareness raising activities to be provided in green entrepreneur centers, green think centers will be the center of consultancy, training and business development activities. By supporting volunteer experts, NGO employees, investors, academicians and entrepreneur candidates who will take part in, will host activities such as ideas to be produced by young people, joint studies, workshops, training events and consultancy services.

In this way, the number of green initiatives that create added value in our country's transition to an innovationoriented economy will be encouraged and supported. In addition, the foundations of the creation of a green entrepreneurship ecosystem will be laid through green thought centers, which are unique in our country. With this aspect, our project will encourage innovative green entrepreneurship and offer young people a new alternative model in the field of employment.

Although the problems mentioned do not only concern our country, they are a need for the whole EU. Transfer of good practices and green entrepreneurship owned by our partners will find a place for itself in the contents to be produced during the sustainability and green employment know-how project, and more holistic and beneficial results will be achieved. At the same time, the project will sustainably increase European cooperation between different sectors and countries.

# C) Environmental climate awareness

In addition to the rapid industrialization, commercialization and the acceleration of other sectoral activities brought about by globalization activities, greenhouse gas emissions, especially from human activities in urban areas, cause global warming and climate change. At this point, as a result of increasing extreme weather events and changing seasonal norms, it basically affects human life negatively.

Climate change will increase existing risks and create new risks for natural and human systems. These risks are unevenly distributed and are often greater for disadvantaged people and communities in countries of all development levels. Increasing warming magnitudes increase the likelihood of severe, widespread and irreversible impacts on humans, species and ecosystems. Continuing high emissions will often have negative impacts on



biodiversity, ecosystem services and economic development, and increase risks to livelihoods, food and human security. (IPCC-Intergovernmental Panel on Climate Change, 2014: 64). For example, the average annual temperatures in the UK could increase between 2°C and 3.5°C in the 2080s, depending on the scenario created and even in the high emissions scenario, the southeast is projected to warm up to 5°C in the summer of the 2080s (Hulme et al., 2002: V).

Cumulative CO2 emissions, on the other hand, largely determine global surface warming in the late 21st century and beyond. Greenhouse gas emissions estimates are spread over a wide range depending on both socio-economic development and climate policy (IPCC, 2014: 8). It is observed that the increase in total greenhouse gas emissions in Turkey by year is quite large compared to other countries included in Table 1. Therefore, awareness of climate change and its effects should be raised and measures should be taken immediately. Looking at the total greenhouse gas emissions by sector in Turkey, As seen in Table 2, sectoral based increases are observed over time. For this reason, prepared action to combat climate change and adaptation to climate change in the framework of the Republic of Turkey 2011-2023 Action Plan on Climate Change, sectoral objectives, targets and actions have been established.

Within the scope of all this information, combating climate change and adaptation to climate change become an important issue in almost all countries. Measures are taken at different scales and levels to address these issues in the world and various practices are implemented.

	Year					
Country	1990	2000	2010	2015	The Rate of Increase Between 1990-2015 (%)	
Australia	419,843	484,842	537,159	533,283	27	
Austria	78,805	80,534	85 <i>,</i> 059	78,851	0	
Belgium	146,294	149,480	132,437	117,443	-20	
Canada	611,001	738,186	700,838	721,801	18	
Chile	51,507	75,501	92,114			
Czech Republic	195,827	148,225	138,626	127,127	-35	
Denmark	70,574	71,390	64,360	49,434	-30	
Estonia	40,403	17,313	21,143	18,040	-55	
Finland	71,125	69,899	75,585	55,507	-22	
France	550,068	555,748	516,766	463,650	-16	
Germany	1.250,915	1.042,958	941,750	901,932	-28	
Greece	103,081	126,328	118,309	95,715	-7	
Hungary	93,896	73,461	65,405	61,092	-35	
Iceland	3,543	3,867	4,651	4,539	28	
Ireland	56,103	69,076	61,692	59 <i>,</i> 878	7	
Italy	519,917	552,864	505,047	433,025	-17	
Japan	1.268,259	1.385,047	1.303,702	1.322,568	4	
Korea	293,124	500,622	656,637			
Luxembourg	12,730	9,617	12,150	10,269	-19	
Mexico	458,754	564,970	701,360			
Netherlands	220,751	219,378	213,922	195,039	-12	
New Zeland	64,574	75,143	78,077	80,155	24	
Norway	51,729	54,639	55,233	53,908	4	
Portugal	59,403	82,291	69,292	68,741	16	
Slovenia	18,594	19,093	19,603	16,831	-9	
Spain	287,828	385,588	356,761	335,662	17	

Table 1. Total Greenhouse Gas Emission Amounts of Countries by Years (Excluding LULUCF) (Thousand Ton CO2 Equivalent)



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Sweden		71,637	68,698	64,555	53,690	-25
Switzerland		53,357	52,365	54,370	48,038	-10
Turkey		213,972	296,473	406,805	475,056	122
United Kingdom		796,816	713,092	615,675	506,765	-36
USA		6.363,064	7.213,873	6.925,468	6.586,655	4
OECD - Europe		5.508,478	5.301,544	5.050,636	4.656,000	-15
OECD - Total		15.064,745	16.350,064	16.058,195	15.370,165	2
	Brazil	573,079	756,664	954,325		
	China					
	Colombia	56,305	70,990	94,429		
Non-OECD	Costa Rica			12,511		
Countries	India		1.523,767			
Economies	Indonesia	266,818	554,334			
	Lithuania	48,041	19,600	20.,82	20,096	-58
	Russia	3.767,551	2.273,083	2.601,041	2.650,954	-30
	South Africa	347,349				

**Source:** OECD Statistics Web Site<u>https://stats.oecd.org/#</u>, 04.07.2018.

\*".." It shows units with no data.

Year	Total	Change Compared to 1990 (%)	Energy	Energy Industrial Processes and Product Use	Agricultural Activities Waste	Waste
1990	210,7	-	134,3	22,9	42,4	11,1
2000	293,5	39,3	212,3	26,6	40,0	14,5
2010	402,6	91,0	292,3	49,2	42,8	18,2
2016	496,1	135,4	361,0	62,4	56,5	16,2

Source: TURKSTAT Web Site, Greenhouse Gas Emission Statistics, 2016,

http://www.tuik.gov.tr/PreHaberBultenleri.do?id=27675, Date of access: 06.06.2018

\* Emissions and sinks from forestry and other land use are not included.

In this context, targets have been set for reducing greenhouse gas emissions by 20% compared to 1990, increasing the share of European Union energy consumption generated from renewable sources to 20%, and achieving a 20% improvement in EU energy efficiency (or reduction in energy consumption) by 2020 (EC-DG CLIMA, 2016: 4).

As another example of these issues, the goal of taking urgent action to combat climate change and its effects, which is included in the United Nations Sustainable Development Goals, is one of the 17 Sustainable Development Goals. In line with this goal, agreements such as the Paris Agreement and climate change action plans prepared at national and local levels in different countries can be given as examples (<u>https://www.un.org/ /</u>, 2018).

Again, there are agreements signed at the international level on these issues, including Turkey, which is known to have signed the United Nations Framework Convention on climate change in 2004 and the Kyoto Protocol in 2009. Also, in addition to these, the publication of the Republic of Turkey Climate Change Action Plan (CCAP) 2011-2023, Turkey Climate Change Strategy 2010-2023 and the publication of the regulation on the monitoring of greenhouse gas emissions in accordance with EU legislation by the Ministry of Environment and Urbanization of the Republic of Turkey, stands out as an example of activities related to these issues in Turkey in 2012. In the Republic of Turkey Climate Change Action Plan (2011-2023) prepared by the Ministry of Environment and Urbanization of the Republic of Turkey energy, building, industry, transport, waste, agriculture, land use and forestry sectors have been covered separately and then by addressing common issues across sectors; separate goals, targets and action areas have been determined for all these issues.



The foundations of policies related to climate change were laid with the 8th Five-Year Development Plan; in 2000, the Climate Change Specialization Commission Report was prepared and published under this Plan (Turkey Climate Change 6. Notification, 2016: 99). In this case, the issues related to climate change shows that there is a very old subject for literature studies in Turkey and Turkey. So at this point, in order to raise awareness on the fight against climate change and adaptation to climate change and to analyze the current situation of stakeholders in sectoral terms, Awareness Raising Project on Climate Change was carried out by the Ministry of Environment and Urbanization of the Republic of Turkey and Ankara Yıldırım Beyazıt University in 2017 and various activities were carried out within the scope of the project. As part of the project, separate surveys were created for local governments, non-governmental organizations, universities and provincial organizations in order to be answered, 94 of the provincial organizations of the ministries, 16 of the non-governmental organizations, only 15 of the local administrations and 5 of the universities answered these questionnaires and sent them to us. For this reason, the surveys sent to us within the study were also handled within their own sectors and the survey results were also evaluated within these sectors.

# D) Overview of the perceptions, interests and needs of different youth groups

Although the young population makes up a significant part of the population in Turkey, the number of studies on young people, as a result, the diversity, depth and timeliness of these data with the available data are very limited. This constraint, in research related to young people in Turkey to benefit from its source in the report, particularly tried to be removed by recourse to European-based publication.

A serious literature has been formed within the scope of the cooperation between the two most important institutions investing in the youth field - the European Union (EU) and the Council of Europe - since 1998<sup>78</sup>. The European Youth Policy Information Centre (EKCYP), established under this cooperation, is based on the development and dissemination of research, policies and practices related to youth policy and research throughout Europe<sup>79</sup>. The EKCYP Communication Network, created in this context, prepares and publishes country reports on youth participation, volunteering, better understanding of youth with one legal representative on the basis of each European country<sup>80</sup>. On the other hand, a second formation established in 2011 under the same cooperation is the "European Youth Researchers Pool" (PEYR)<sup>81</sup>. In this context, youth researchers work to increase and spread the scientific studies carried out in the field of youth and to ensure the flow of information through the representation of the country. Representatives of Turkey have been working in both centers since their establishment.

Without being limited to this cooperation, the various opportunities provided by the Council of Europe for young people and those working with young people, of which both the EU and Turkey are members, have made significant transformations on behalf of young people, especially by converting cross-border work within Europe into programs. In the White Paper for Youth (2001)<sup>82</sup>, the European Youth Pact (2005)<sup>83</sup> and the EU 2010-2018 Youth Strategy<sup>84</sup> and the Europe 2020 Strategy, gathering under the heading of Moving Youth (also using it as the National Agency Youth Move)<sup>85</sup>, are perhaps the most important of the main building blocks of this orientation within the EU.

<sup>78</sup> http://youth-partnership-eu.coe.int/youth-partnership/about/index.html

<sup>&</sup>lt;sup>79</sup> http://youth-partnership-eu.coe.int/youth-partnership/ekcyp/index

<sup>&</sup>lt;sup>80</sup> http://youth-partnership-eu.coe.int/youth-partnership/ekcyp/EKCYP\_Correspondants;http://youth-partnership-eu.coe.int/youth-partnership/documents/Questionnaires/Country/2008-09/Turkey.pdf

<sup>&</sup>lt;sup>81</sup>http://youth-partnership-eu.coe.int/youth-partnership/research/peyr.html

<sup>82</sup> http://ec.europa.eu/youth/archive/whitepaper/index\_en.html

<sup>83</sup> http://ec.europa.eu/youth/archive/policies/youthpact\_en.html

 $<sup>^{84} \\</sup> http://epp.eurostat.ec.europa.eu/portal/page/portal/employment_social_policy_equality/youth_policy_equality_equality/youth_policy_equality/youth_policy_equality/youth$ 

<sup>&</sup>lt;sup>85</sup>http://ec.europa.eu/youthonthemove/index\_en.htm

Similarly, the Warsaw Summit (2005), the Council of Europe's Youth Policy: Agenda 2020<sup>86</sup> and the meeting of ministers responsible for youth in 2008 are considered important steps for the Council of Europe as an institution of which Turkey is also a member.

Another source referenced internationally is the work done by the United Nations (UN) organization. Especially in these studies, it is possible to come across data on young people outside Europe. But UN-based studies -in line with the Millennium Development Goals - focus on a narrower window<sup>87</sup>.

A set of services and literature related to young people, including but not limited to these studies, is also available in many European countries in national and even local frameworks, especially with the development of social states in Europe after the Second World War. However, it is not possible to talk about a homogeneous youth policy in Europe. The whole relationship between states and young people changes within the framework of the specific conditions of each country. However, in the most general sense, in order to improve the place of young people in society, although there are different approaches at a singular level, the set of services that we can gather under the name of general and youth policy has a serious visibility and legitimacy in European countries<sup>88</sup>. In the background of these services, there is the analysis of the current situation in scientific and data-based ways, ensuring the participation of other relevant segments in the policy-making process, especially the subject, and the renewal of the created according to the changing needs over time. On the basis of all these, there is an approach towards young people who constitute one of the segments of society.

In this context, in this section, first of all, in the social memory of young people - without being limited by Turkey, but also without forgetting that this report is related to Turkey- has been thought that it would be more appropriate to make a summary of the way it was handled and then analyze the existing data.

### Youth work in Turkey

Youth work takes place in the context of "out of school education" and focuses on youth and voluntary participation of young people in a way that promotes social and personal development through non-formal and informal learning. It consists of social, cultural, educational and political opportunities and activities that will increase the chances of young people to integrate and participate in society.

As the diversity in the European context shows, the organization and framework of youth work is largely based on social and educational practices as well as the level of financial and political contribution. This means that historical, cultural and political contexts define the framework of youth work at the national level. Therefore, this chapter, firstly focusing on the institutional framework in the context of youth policy and youth work in Turkey and secondly by taking a picture of public, civil, private and other actors of youth work in Turkey, provides a brief summary of youth work in Turkey. The last chapter briefly addresses youth work practices in Turkey.

# 1. Youth work in the context of youth policy in Turkey

The National Youth and Sports Policy Document, approved as the Decree of the Council of Ministers numbered 2012/4242 and published in the Official Gazette numbered 28541 on January 27, 2013, is the most important reference policy document defining the priorities of the government in the field of youth.

In the said Policy Document, the vision of youth policy is defined as follows: "Young people have universal and human values, depending on their national and moral values, respectful to the environment, knowledgeable and self-confident, active, entrepreneurial, high sense of social belonging, actively participating in social life, using their fundamental rights and freedoms effectively and to create the opportunity and ground where they can fully realize their potential as individuals who can compete with their peers in the international arena."

Accordingly, the main objectives of youth policies are as follows:

<sup>&</sup>lt;sup>88</sup> http://youth-partnership-eu.coe.int/vouth-partnership/ekcvp/Countryinformation2.html YouthEmploymentYouthPerspectives on thePursuit of DecentWork in Changing Times", World Youth Report, 2011



<sup>86 &</sup>quot;The future of the Council of Europe youth policy: AGENDA 2020", 8th Council of Europe Conference of Ministersres ponsible for Youth Kyiv, Ukraine 10-11 October 2008

<sup>87</sup> YouthEmploymentYouthPerspectives on thePursuit of DecentWork in Changing Times", World Youth Report, 2011

- Setting the perception of youth on the right ground;
- Identifying the needs, expectations and concerns of young people;
- To determine the institutions and organizations that work with young people, to ensure the cooperation and coordination between them;
- To provide the necessary support and encouragement to activate and strengthen the activities of nongovernmental organizations in the field of youth;
- Using resources in a way that fully contributes to the development of young people;
- To support the personal and social development of youth;
- To develop the citizenship awareness of the youth;
- To enable young people to reveal their potential by taking into account the needs of different youth groups.

The youth policy principles and values adopted in the document are commitment to human rights, democratic values and the Republic; to adopt, live and keep alive national, historical, cultural and human values; based on a rights-based approach; to prevent all kinds of discrimination and to realize equal opportunities; to see individual and social differences as a wealth, and to see this wealth as a means of social solidarity and integration; based on research and knowledge; prioritizing disadvantaged youth; observing international standards in policies and practices; participation; accessibility; holism, applicability; accountability; transparency and locality. In the Policy Document, a number of policy areas are determined as well as the stakeholders to cooperate to achieve the goals. Although "youth work" is not addressed as a separate field in the document, nevertheless youth work and youth work in Turkey is possible to identify some policy areas directly linked to the practice. In this context, it is possible to talk about education and lifelong learning; democratic participation and civic awareness; leisure time use; volunteer work and mobility policy areas.

"Education and lifelong learning" policy includes strengthening the understanding of lifelong learning and developing non-formal education opportunities. "Democratic participation and civic awareness" policy includes topics that are encouraging young people to take part in non-governmental organizations as founders, managers and members with the aim of spreading projects as members of non-governmental organizations; ensuring that all relevant institutions and organizations provide all kinds of support to the establishment of non-governmental organizations at local, regional, national level and other youth organizations at the international and neighboring countries.

The "using of leisure time" policy focuses on youth centers, activities and increasing the number of places where young people can spend their free time and expanding these services to more people with the aim of promoting youth centers; ensuring that more young people benefit from youth centers by improving the physical conditions of existing youth centers; organizing activities for young people in rural areas to spend their free time effectively through public institutions and increasing the number of facilities where sports activities are carried out to spend free time.

Encouraging the establishment of non-governmental organizations under the same policy; encouraging youth nongovernmental organizations to establish networks and roof organizations among themselves; establishing regulations that will encourage the membership of young people in civil society organizations and their activities more efficiently to help run activities and projects, supporting existing youth clubs and civil society organizations within the framework of the objectives of civil society organizations in the youth field and support the establishment and structuring of the arrangement also is defined as a policy issue.

"Volunteer work and mobility" policy includes references to increasing the participation of young people in volunteer activities and removing obstacles to volunteering. It is envisaged that it will be provided through the objectives of organizing voluntary activities for young people to acquire professional skills, unlike educational activities, so that this will increase the learning competence of young people, develop their sense of solidarity in order to encourage them to be employable and adapt more easily to society and enable them to become active citizens; working on volunteering in a way that encourages the participation of young people in various voluntary organizations; strengthening communication between voluntary organizations and their support to each other and

increasing the participation of young people in non-governmental organizations. In addition, an emphasis is also placed on supporting the voluntary activities of young people and non-governmental organizations and informing young people about non-governmental organizations and volunteering in order to increase the number of support programs provided by public institutions to non-governmental organizations and young people; providing the support of the private sector for non-governmental organizations and to encourage volunteering activities.

Another important issue that focuses on mobility is that defines mobility as a method for activities where young people can socialize outside the family environment, express themselves and contribute to their personal development, which are provided by non-formal education methods that aim to prepare and empower young people for social life apart from educational activities. In this context, this policy issue is aimed at expanding educational programs, intercultural exchanges and volunteering projects that will enable young people to take place as more active individuals in national and international platforms.

In order to provide the conditions for the sustainability of life on earth, it is seen that three main acquisition areas come to the fore to be associated with "Natural-artificial environment knowledge and understanding of humannature interaction", positive "sense and behavior development" towards nature and "personality development".

Achieving the stated gains requires following the "research and invention" teaching strategy based on the "innovative (innovative: participative and anticipative) learning" and "constructivist learning" approach that can make students active and to include effective teaching methods accordingly.

## 2. Raising Environmental Awareness in Youth and Children

Environmental problems threaten human existence as well as make our world uninhabitable. One way to stop this catastrophe is for people to abandon their usual thinking and behavior, now and in the future. Therefore, without wasting any time, people have to do their part to find solutions to these environmental problems. Today, environmental problems are not a problem that can only be solved by technology or laws. This is only possible by changing individual behavior. Change in behavior necessitates changes in attitude, knowledge and value judgments. The formation of positive attitudes and value judgments towards the environment is possible with environmental education.

Environmental education can be defined as developing environmental awareness in all segments of the society, gaining environmentally sensitive, permanent and positive behavioral changes and protecting natural, historical, and cultural, socio-aesthetic values, ensuring active participation and taking part in solving problems. The main purpose of environmental education is to help individuals who have passed through the education and training process grow up as citizens equipped with knowledge, skills and value judgments that enable and encourage them to exhibit responsible behaviors about the environment.

Therefore, environmental education enables individuals to take an active role in solving environmental problems by increasing their awareness and knowledge of the environment.

According to another source, the objectives of environmental education are as follows:

- Develop awareness and sensitivity towards nature and nature problems;
- Increasing basic knowledge and understanding of how nature works;
- Ensure the development of positive behavior and values towards nature;
- Ensuring the acquisition of necessary skills in defining, researching and solving problems related to nature;
- Ensuring active participation in the protection of nature.

According to the Final Report of the IV. Environment Council of the Ministry of Environment, the 6th Commission, "Environmental Education, Public Awareness and Participation" Commission, some of the measures taken to increase the quality of environmental education are as follows:

- Article 4: Cooperation should be made with the Ministry of Environment and voluntary organizations to prepare educational materials (books, magazines, brochures, videotapes, CD, etc.) that will provide environmental education at formal education level more effectively and permanently;
- Article 12: Providing environmental education to teachers working within the Ministry of National Education



through in-service and teacher trainer courses;

- Article 13: Preparing contemporary teachers for their profession with pre-service and in-service programs in the branches deemed appropriate by the Ministry of National Education to teach the environment and human lessons at secondary education level;
- Article 17: Cooperating with relevant organizations in order to include educational programs that will appeal to all age groups in TV, Radio and print media in order to increase environmental awareness through the media;
- Article 18: Evaluation of World Environment Day on June 5 for one week in all provinces and districts throughout the country;
- Article 22: Encouraging the preparation of scientific and ecological journals, fairy tales and story books and supplementary resource books and cooperating with the Ministry of National Education to keep these in libraries;
- Article 27: Encouragement of membership in order to strengthen voluntary organizations operating in the field of environment.

After environmental education activities, it reveals that students do not reach the required level of consciousness, even the misconceptions detected and environmental education is not effective at the desired level. For these reasons, to increase the effectiveness of the course; it becomes necessary to use teaching approaches that make the student active, save the information porter and improve brain power.

One of the most effective methods that can be used in environmental education is problem solving method. Through problem solving method, by understanding the environmental elements and problems that students perceive and constantly encounter in the real world, students learn ways to deal with these problems through systematic thinking and logical steps. In this way, a healthy environmental awareness is developed in students with problem solving method. In addition, multi-intelligence-based environmental education has more impact on students' ecology achievements than traditional teaching method.

It is known that environmental education provided through music has a positive effect on students' environmental awareness.

Another way to save students from rote education is to have them prepare projects. Project-based learning approach is a model that is suitable for science education and can make significant contributions to the classroom environment.

In the process of raising environmentally sensitive individuals, the education of students at school age is of great importance. The place of secondary education level of education is indisputable in terms of educating students who are equipped with environmental issues before university and considering that not all students can continue their university education. Therefore, it is possible to say that the quality of "environmental education programs" based in secondary education is equivalent to the quality of education to be provided.

Environmental education programs should develop students' self-decision-making, problem-solving and scientific thinking skills. Curriculums should be flexible, based on learning by doing and living in a way that will enable students to acquire certain mental and manual skills rather than knowledge. Environmental education to be given to students must be based on sustainable development principles.

Student and teacher handbooks prepared within the scope of education programs, in addition to the laboratory guide and various experiments, also various micro-environments (city, forest, park, zoo and botanical gardens) in the nearby regions should be put into use for educational purposes. Thus, first hand observation skills of students and to be able to define problems and establishing hypotheses about these problems and saying how they can be tested experimentally skills should be developed.

As in other fields, even if very comprehensive and excellent programs are prepared in environmental education, Teachers who will implement this program must be environmentally friendly, believe in the necessity of environmental education, have sufficient knowledge and skills on this subject, and also be willing. The teacher should be a good model for the student regarding the environment. The intensity of the curriculum, the lack of environmental issues in the curriculum, the lack of appropriate resources and equipment for the student level, the



lack of education of the students' families, and the inadequacy of teachers about the environment are the negativities encountered in environmental education.

Besides, school administrations also need to consider environmental education as a team work, to ensure that the works are carried out within a program, to make arrangements where teachers can discuss problems among themselves, find common solutions and share their experiences, provide suitable environments for teachers and students to work, and exhibit encouraging and motivational behaviors. In order to raise individuals who consume as much as they need, who feel responsible for future generations, who are sensitive and conscious about environmental problems, environmental educators also develop alternative environmental education programs that include new themes and a large number of comprehensive activities related to them, which will also allow teachers to choose environmental education. Also, activities that examine the environmental connections of different areas and can be done easily, since the activities will enable teachers to devote time to the subject of environment in different lessons, they will eliminate the disruptions that may occur in the lesson programs.

### 3. Scope of Environmental Education by Level

## For Primary School Children:

- Fundamentals of biopolitical structure and functions;
- Ecosystem / human relations;
- Explanation of human Predator, Predator, symbiotic, parasitic and contender qualities;
- Explanation of the actions of all species in nature and the actions of man, especially the dimensions of production and consumption;
- Explaining the meaning of evolution, natural selection and formation of species, the qualities of DNA and genes, explaining that the destruction of species is a loss that cannot be measured;
- Concepts of population growth and population control, population relations, development and welfare growth and population relations;
- Explaining the principles of photosynthesis, the importance of agricultural products, environmental pollution with fertilizers and drugs;
- Pollution Control and Natural Environmental Protection qualities.

### In Secondary Education:

- The chemical basis of life and the effects of economic activities on organic living things, the causes of water, air, soil pollution, the effect of overproduction and consumption on the extinction of species;
- Explain biology topics such as cell structure and functions, heredity and genetics;
- The role played by viruses and diseases, the economic cost of a healthy environment, population growth on Environmental Health;
- Biological structure of man, vertebrate and invertebrate animal species, reptiles, plants and the natural relationship between them;
- Analysis of biotic and abiotic factors in the ecosystem, the use of Mines, water, air and soil in terms of economic profit and benefit concepts;
- Processing of basic principles of economy and environment-economy-biopolitical relations.

### E) The importance of green entrepreneurship

While the understanding of green economy aims to minimize and eliminate risks such as climate change, water scarcity and losses on the ecosystem, with this process, it prepares the ground for the emergence of new professions and economic activities. The new fields of activity, which are expressed as "brown jobs" and are expected to replace many occupational groups that pose various risks on the environment, are called "green jobs". The transition to a green economy has various potential effects, both positive and negative. It will require new

equipment and infrastructure elements to meet the investments and demand increases that will arise in green goods and services. This will lead to an expansion of the current number of industries and entrepreneurs. In this way, more labor demand and an increase in the number of green jobs will occur primarily in green sectors. In addition, due to the increasing inter-industry relationships of expanding industries, it will also create additional employment opportunities in many areas such as insulation materials that provide input to green sectors, cement production, steel and carbon production. Thanks to these additional activities, redistribution of created income with expenditures, additional investment and consumption, is one of the positive aspects thought to arise with green jobs (ILO, 2012). Along with economic growth, with less pollution and more efficient use of resources, with fields such as energy, water, waste, construction, agriculture, forestry and special emphasis is placed on these new areas of employment that emerge within the framework of managing structural changes such as traditional economic sectors and potential adverse effects on vulnerable households (UNEP, 2010a). These new employment areas, called green jobs, will emerge in the agriculture, construction, energy, forestry and transportation sectors. However, in sectors whose natural capital has started to decrease significantly, such as in the fishery sector, it may cause profession and income losses in the short and medium term in order to increase the natural stocks again. At the same time, it may be necessary to make various investments to retrain the workforce in the sector and to gain new skills. Efficient use of energy in buildings is extremely important in preventing damage to the environment and creating new employment areas. Energy use, greenhouse gas emissions and approximately 30-40% of total waste originate from buildings. By using existing construction technologies, it is possible to reduce energy use by 80% compared to traditional designs. Governments can spend directly on public buildings and schools, hospitals, and university buildings in order to use energy more efficiently. In addition, governments may introduce tax incentives to private companies and households to promote building insulation. In terms of sustainable transportation, governments need to be encouraged by international financial institutions to improve public transport and to use green cars more to be able to create more environmentally friendly transportation models and infrastructures that use energy more effectively. It is estimated that, thanks to the increase in the production of low-emission vehicles, new employment areas will be created for approximately 3.8 million people (UNEP, 2009: 7). This increase in employment will increase even more as it stimulates the secondary sectors. In the field of sustainable energy, especially developed countries should be supportive in contributing to the financing of ongoing clean energy projects. Developing country economies, on the other hand, should implement practices towards the widespread use of small-scale energy systems (off-grid) that can store energy. In sustainable agriculture and clean drinking water supply areas, governments have important responsibilities in creating added value, preventing water losses used in traditional irrigation, and improving water capacity and quality. The agriculture sector continues to be the largest sector worldwide, with billions of workers. At the same time, the poorest majority lives within the agricultural sector. Sustainability in the agricultural sector is closely related to water supply. On the other hand, the supply of clean drinking water worldwide is under serious threat. According to a report prepared by the OECD, 40% of the world population will face the problem of finding clean drinking water in 2050 (OECD, 2012). In the report published by the International Labor Organization (ILO) in 2012, it is stated in many studies that new employment areas will emerge for 15-60 million people globally with the transition to green economy in all sectors. It is also stated that especially developing countries' economies have great advantages in the emergence of green jobs. According to the Report, an international investment of 30 billion dollars to be made every year for the purpose of preventing deforestation will lead to 8 million people finding full-time jobs in developing countries (ILO, 2012: 7).

Green entrepreneurs contribute to the formation of a green economy. The green economy is a complex process
that covers various sectors and different technologies, and also seeks effective jobs and ways of working
together with social change. According to the United Nations Environment Program (UNEP), the green economy
describes an economy that results in the development of human well-being and social equality, while reducing
environmental risks and ecological scarcity (Hewitt, 2012: 5).

- Green entrepreneurs can create a dynamic framework for environmental development by replacing existing traditional production methods, products, market structures and consumption patterns with superior environmental products and services (OECD, 2013: 37).
- Green entrepreneurs contribute to green growth. Green growth is to ensure that nature assets continue to
  provide resources and environmental services that underpin our well-being by guaranteeing, economic growth
  and development. To do this, environmentally friendly growth will catalyze innovations and investments that
  will support sustainable growth and increase new economic opportunities (OECD, 2011: 1).
- Today, green-entrepreneurs can be seen as an important change factor in terms of sustainable development and starting their activities as an environmentally sensitive enterprise during the establishment phase of many businesses (Efeoğlu, 2014: 104).
- While businesses created by green entrepreneurs embody environmental values, they also challenge existing
  markets by proposing innovative solutions to existing and emerging needs. Green entrepreneurs can become a
  role model for potential entrepreneurs by creating a new business concept that combines environmental
  performance with market goals and financial goals, and contributing to the growth and expansion of green
  markets (OECD, 2013: 67).
- Activities of green entrepreneurs include activities such as eco-tourism, recycling, energy efficiency, sustainable mobility, organic agriculture, renewable energy, and green entrepreneurs contribute to the increase in the number of green jobs linked to these activities.
- Green entrepreneurship can be an important opportunity for women entrepreneurship in developing countries where agriculture takes an important place. Especially if micro, small and medium-sized enterprises and green cooperatives to be established by women entrepreneurs in underdeveloped regions are combined with marketing and business development skills, it contributes to women's empowerment, income generation and the development of women's entrepreneurship and creates economic dynamism. At the same time, eco-friendly agriculture is a rapidly growing area and can offer strong prospects for the future of rural development (Sanyang, Huang, 2008: 677).
- Environmental challenges faced today can be turned into economic opportunities by green entrepreneurs. For example, green entrepreneurs can be a bridge between increasing economic demands and environmental services by producing eco-innovative products and services such as new products made from recycled waste or services in the field of environmental technology (such as renewable energy).
- Green entrepreneurship requires innovation and entrepreneurship together. Green entrepreneurship is
  important because of eco-innovations. Because eco-innovations will be the future competitive advantage of
  companies and countries. If companies and countries want to be successful in the international market in the
  future, new and innovative environmental technologies, services and processes will be a much more important
  source of competitive advantage than low cost (McEwen, 2013: 270).
- Global population growth affects green entrepreneurship. The increase in the world population will also increase consumption. These increases in consumption can have a negative impact on eco-systems. Green entrepreneurs are also important in finding new technologies to protect the environment in the face of increased consumption (McEwen, 2013: 270).
- The further acceleration of the extinction of wild animals' habitats, of various plant species, and the continuing destruction and suffering of tropical forests inhabited by the world's richest species, ie the loss of biodiversity, also confirm the need for entrepreneurial action to solve environmental problems. There is a need for a new type of entrepreneurship that takes environmental concerns into account: green entrepreneurs (McEwen, 2013: 270-271).
- Green entrepreneurship is also important in terms of employment. Green entrepreneurs will create jobs in many sectors such as agriculture, construction, forestry and transportation, with job growths that will be more visible than current jobs in the short, medium and long term (Creech, Huppe, Paas, Voora, 2012: 8).



- Increasing green entrepreneurship activities and R&D studies in the field of environment ensures that the foundations of a new entrepreneurship system are laid globally by spreading the studies for cleaner production and sustainable consumption to a wider audience (EKOIQ, 2015: 44), and green entrepreneurs have the potential to play an important role in the development of a more sustainable economic and commercial system (Schaper, 2010: 13).
- Green entrepreneurs contribute to the creation of a sustainable green economy by offering green products and services, applying and promoting green production techniques, increasing demand for green products and services, and creating green jobs (ILO, 2014: 2).

### 1. Support for green entrepreneurs

In our country, the fact that the concept of entrepreneurship has only just matured, creates an obstacle for Green Entrepreneurship. Nevertheless, in Turkey 'support given the green of firms it is increasing every year. National support mechanisms such as angel investor networks, incubation centers, technology development zones, TUBITAK (The Scientific and Technological Research Council of Turkiye) supports, and international support mechanisms such as Horizon 2020 are some of them.

Moreover, Turkiye's first green entrepreneurship, the establishment of the center and ensuring a sustainable structure for the purpose of 2018 at the Büyükçekmece Municipality of coordination established by the Global Environment Association "for International Green Entrepreneurship and Employment Center", organizing training for entrepreneurs between the age of 18-29. However, the Technology Development Foundation of Turkiye (TTGV) collaborating their activities with Spain Cleaner Production Regional Environment Center to (RAC/CP), for realizing "green entrepreneurship in the current situation for the establishment of a sustainable lifestyle in Turkiye, conducted a research and review study also identifiing the current situation, challenges and opportunities of green entrepreneurship. The studies conducted were collected together with green entrepreneurship examples in the "GreenEntrepreneurship in Turkey" publication. In addition, with the support of Green Technology Projects (YETEP) within TTGV, it provides refundable financing support to application projects carried out by industrial organizations in the fields of climate-friendly technologies, clean production technologies and energy efficiency, renewable energy and other energy technologies.

### New Jobs: Green Jobs

The green economy can be defined as an idea that includes all people and all countries, aims to protect the environment for both present and future generations, and symbolizes a fairer and more sustainable economy and society (UNEP, 2008a: 1). Green economy, with a more specific definition, consists of all kinds of clean technology, goods and service production activities aimed at measuring, preventing, limiting, minimizing and eliminating environmental damages related to water, air and soil as well as waste, noise and eco-system related problems. (OECD, 1999: 9). Greenjobs are also businesses that provide employment opportunities in sectors highlighted by the green economy. These sectors are classified as (Evans Klock and Poschen: 2008: 14):

- a. Renewable energy
- b. Energy efficient: buildings, industry and transport;
- c. Mobility: public transport;
- d. Recycling, waste management;
- e. Sustainable agriculture and forestry;
- f. Environmental services.

Green jobs are expected to find solutions to two determinant problems that humanity may face in the 21st century. According to a report published by the United Nations Environment Program (UNEP, 2008a: 1), these problems are:

1. Preventing dangerous and potentially unmanageable climate change and protecting the natural environment that supports life on earth, and;



- 2. The provision of decent work for all, and therefore prosperity and dignity, in the face of rapid population growth worldwide and the current possibility of exclusion from the economic and social development faced by more than one billion people;
- 3. The green economy offers great opportunities for starting new businesses, developing new markets and low energy costs. The trends and investments observed in the markets confirm this assessment. The global market size for environmental products and services is projected to double from \$ 1,370 billion to \$ 2,740 billion by 2020. Half of this market is based on a balance between energy efficiency and sustainable transport, water supply, sewerage and waste management.

### 2. Eco entrepreneurship

Globalization process in the world; It has led businesses to seek activities that will gain competitive advantage and create value. While these efforts of businesses created an economic revival in their countries, they led to indescribable distortions on the natural environment. For example, the high profit target of enterprises has resulted in pollution of the natural environment, unconscious consumption of natural resources, reduction of biodiversity and unlimited degradation. This situation has resulted in sustainable development studies, in which the economy and the environment interact, and therefore the necessity to be evaluated together. Sustainable development studies based on improving the quality of life without harming natural resources have brought entrepreneurs to the fore with their innovation and creativity features. At the end of this process, eco-entrepreneurship, expressed as environment-oriented entrepreneurship, has emerged as a new type of entrepreneurship.

### The Concept of New Entrepreneurship (Eco-entrepreneurship)

Entrepreneurs; They play a role in the detection of problems that cannot be solved with their individual efforts and in the satisfaction of known or unknown needs. At this point, entrepreneurs are expected to notice and activate these gaps. Entrepreneurs try to respond to customer expectations by making changes and transformations in existing products and services, by providing new products and services or by doing both. Entrepreneurship efforts shaped in line with customer expectations have shifted from the pursuit of quality to an environmentally oriented approach in the last two decades. In today's global market, entrepreneurs have had to turn to activities of a new strategy such as waste minimization, green product design and green-oriented technology partnerships of the developing world. Therefore, the concept of entrepreneurship gained a new dimension and resulted in the concept of eco entrepreneurship (Aykan, 2012). Eco entrepreneurship is basically defined as establishing a business that offers products and services that may cause minimum damage to the environment with an innovative approach. More broadly, eco entrepreneurship; It is defined as the establishment stage of an innovative, market and personal oriented business that can create value through environmental innovations and products. Entrepreneurs who carry out eco entrepreneurship activity are called eco entrepreneurs. Isaak generally defines eco entrepreneur and eco entrepreneurship as follows: An ideal eco entrepreneur is a person who strives to transform the economic sector in which he works into a completely green business. Eco entrepreneurship can be described as a business behavior dedicated to sustainability. (Aydın & Çakar, 2014) Scientifically stated definition of eco entrepreneurship is symbolized as in Figure 4.1. Considering the information in Figure 4.1, establishing the field of entrepreneurship and sustainability studies with a common understanding constitutes eco entrepreneurship. Basic thinking in ecoinnovation, eco-opportunism and eco-commitment; To be able to create innovations that will reduce the impact of human beings on ecology by taking advantage of ecological practices and ensuring the commitment of these practices to ecology friendly goals. Therefore, ecological efficiency, environmental cost leadership and ecological branding can be expressed as important environmental strategies to realize these ideas. Eco entrepreneurship covers all the activities that will increase the positive contribution of the businesses to the society with their activities and minimize the negative effects on people and the environment while at the same time realizing the entrepreneurship goals of the enterprises. In this context, eco entrepreneurship includes environmentally oriented practices that concern all stakeholders such as customers, business partners, employees, suppliers of enterprises



and guide them to interact. In the literature, entrepreneurship and environmental issues have started to be discussed in the 1980s. Eco entrepreneurship has emerged as a field of work within the scope of green management activities that is not well known and understood by entrepreneurs. With the importance of sustainable development studies, eco entrepreneurship started to gain importance at the end of the 1980s with the publication of the Bruthland Report (1987) by the World Commission of Labor and Development. In the 1990s, an increase in 134 eco-entrepreneurship activities has been observed.

While Blue (1990), Bennett (1991) and Berle (1991) were working under the name of "green entrepreneurship", "green entrepreneurship" and "ecological entrepreneurship", researchers such as Anderson and Leal (1997), Isaak (1998) were working on eco entreneurship in the late 1990s. (Aykan, 2012). Being an eco entrepreneur depends on different ideas that can be transformed into practice. These ideas bring a privilege to the businesses established by eco entrepreneurs by bringing innovative solutions. Finding ideas is related to the creativity level of the individual. Those who have individual creativity can observe the problems in their environment better than other people and create ideas that bring practical solutions. Therefore, individual creativity emerges as a concept that should be examined and associated with eco-entrepreneurship. (Aydın & Çakar, 2014) Figure 4.1: General Framework of Eco-entrepreneurship in the Scientific Field, Source: Aydın & Çakar, 2014: 81.

The first studies on eco entrepreneurship started with the personal interests of individuals in environmental issues. The personal talents and creative behavior of eco entrepreneurs also guide their professional lives. For example, ClaussHipp (manufacturer of Hibb baby food), GottliebDuttweiler (founder of Migros), Ernest Pfenninger (head of Trisa) have demonstrated entrepreneurial behavior that integrates strong environmental and social values with the values of their business.

From this point of view, Allen and Malin define eco entrepreneurs as creative people who consider environmental values as one of the basic components of the identity of the business and transform these values into opportunities that will provide competitive advantage to the business in the market. Eco entrepreneurs are considered as social change agents who feel obliged to apply environmental norms in their businesses, and who give a large place to the environment in their vision. There are some common features of eco-entrepreneurial activities where differences between perception of reality and personal goals are perceived not as problems but as opportunities. These features can be listed as follows: Eco initiatives include an entrepreneurial path, shape or order. All eco entrepreneurs take risk business activities and, like other entrepreneurs, look for opportunities for their business and realize these ideas, develop them and manage growth with appropriate resources. Eco entrepreneurs create a positive impact on the environment in all of their business activities for a more sustainable future. The goals of all eco entrepreneurs are common. Eco entrepreneurs' most important goals in their personal belief systems (values, goals) are the protection of the natural environment and the desire for a more sustainable future (Aykan, 2012). 7.2.

Factors Affecting Eco entrepreneurship businesses continue their activities in a dynamic environment. Within this dynamic structure, there are many factors ranging from the employees of the enterprise to its competitors, from customers to suppliers, to the characteristics of the entrepreneur. Similarly, there are many factors that affect, support or restrict eco entrepreneurship. In this context, factors affecting eco entrepreneurship are divided into two groups as internal and external factors. These factors are explained below. (Aykan, 2012)

### Internal Factors Affecting Eco-entrepreneurship

 a) Eco entrepreneur characteristics: Since he is the person who starts the enterprise, sees the opportunities and turns them into a business idea, and directs the employees and partly the managers, eco entrepreneurship is one of the main factors affecting it. Eco entrepreneurs; belief systems, past experiences, education, personal relationship networks and family and friend groups are among the important factors that affect their initiatives. It is observed that the entrepreneur takes initiative due to environmental effects such as autonomy, economic necessity, divorce as well as personal characteristics such as innovation, creativity, and extroversion.

- b) Sustainable values owned by the business: The damage done to nature over millions of years in the last 250 years has brought the concept of "ecojustice" to the agenda in favor of other living things. The understanding of sustainable development, which aims to develop by protecting the ecological rights of future generations, can be realized primarily by adopting environment-oriented values it is important for eco entrepreneurship activities that businesses understand sustainable development goals and want them to implement in their business activities by focusing the environment on efficiency and productivity studies and create an environmentalist belief system in their business. Eco entrepreneurship activities are expected to be more successful in enterprises dominated by sustainable values.
- c) Competitive advantage of environmentally friendly products: With the development of environmental awareness in the social sense, the interest of consumers in the environmental impact of the products they buy has increased. At the same time, the change in customer preferences brought along the increase in alternative products, and increased competition. At this point, eco entrepreneurs who are experts in identifying green business opportunities and transforming them into activities through entrepreneurship have important duties. The added value and competitive advantage created by environmentally friendly products represent new opportunities and new investment areas for eco-entrepreneurs.

### **External Factors Affecting Eco entrepreneurship**

- a) Regulatory and supervisory bodies: With the natural environmental problems posing a threat to the world, the environmental issue has been obliged to be taken into consideration by businesses worldwide. The acceptance of environmental standards such as ISO 14000, EMAS, BS 7750 in Europe and all over the world is one of the reasons that lead businesses to act environmentally sensitive. Therefore, being present of and controlling environmental regulations and standards that businesses have to comply with affect the activities of ecoentrepreneurs.
- b) Environmentalist pressure groups: With the increase of environmental awareness in individuals and societies, non-governmental organizations and human rights associations become an element of pressure for businesses and entrepreneurs. The impacts of businesses on the environment, the obligation to explain their environmental performance and the effects of their negative consequences on businesses force entrepreneurs to think environmentally. The "management in the aquarium" approach, which involves businesses to present their activities more openly and transparently to the society, also affects eco entrepreneurship and entrepreneurs.
- c) Green customers: In line with the developing environmental awareness, especially the more environmentally sensitive pioneer consumers, such as purchasing quality and environmentally friendly products instead of consuming too much, preferring environmentally friendly packaged products, starting to think long-term from short-term thinking in consumption actions, turning to products with lower risk. social, environmentally sensitive and ethical behaviors also positively affect eco entrepreneurs.
- d) Green investors and green partnerships: It is important for eco entrepreneurs to establish business and partnerships with people and institutions that share common values and beliefs. This situation creates a different synergy for eco entrepreneurs.
- e) Policies and practices: The policies and practices of governments that support eco initiatives are important for eco entrepreneurs. Especially practices such as eco enterprise incentives and tax exemptions can give eco entrepreneurs a competitive advantage. Another important point in this regard is that enterprises establish environmental policies and programs. Environmental policies and programs can be made in many areas from energy and raw material saving to waste management. In this context, environmental policies and practices create the opportunity to monitor the results of eco entrepreneurship activities in a shorter time. As a result, eco entrepreneurship activities, in which many factors mentioned above are effective, came to the fore with the increase in environmental awareness in individuals and societies. Businesses have shifted their efforts to eco-entrepreneurship activities that regulate the eco system and prevent environmental problems, such as reducing waste and emissions, recycling waste, saving energy and natural resources.

### Types of Eco entrepreneurship

It is seen that eco entrepreneurship practices, which have gained importance in recent years, have developed and expressed differently. Pastakia eco entrepreneurship activities; classifies as commercial and social eco entrepreneurship.

While commercial eco entrepreneurs are defined as businesses that identify green business opportunities (environmentally friendly products and processes) and transform these opportunities into business activities, social eco entrepreneurs define businesses that support environmentally friendly products, technologies and ideas that are on the market or not. Volery classifies eco entrepreneurial businesses as environmentally friendly businesses and green entrepreneurs. While environmentally sensitive entrepreneurial businesses refer to businesses that are environmentally aware but do not take part in the environmental market, green entrepreneurial businesses include businesses that are both environmentally sensitive and actively involved in the environmental market. Isaak, classifies eco entrepreneurial businesses; Green businesses (greenbusinesses) and green green (greenbusinesses) businesses into two groups. Green businesses; They are businesses that do not start their activities with an environmental focus, but try to transform their existing businesses into an environment-oriented one by recognizing the market, price and innovation advantages of the environment. Green green businesses, on the other hand, refer to the enterprises in which the products and processes of the enterprises have been designed in an environmentally oriented manner since the establishment stage. With a different approach, Taylor and Walley divided eco-entrepreneurial businesses into four types, which they try to explain with economic orientation and sustainable orientation dimensions. Temporary entrepreneurs of this type refer to businesses that have made an accidental venture. Their businesses motivation factors are profit, not family, friends, personal relationships or values. Opportunistic businesses appear to be profit-oriented businesses that see green opportunities or gaps. Ecoentrepreneurial businesses, expressed as unruly; are sustainability-oriented businesses that are flexible about structural changes. Sustainable values constitute the motivation source of these enterprises. On the other hand, visionary championships, are defined as transformational enterprises established with sustainability principles (Aykan, 2012).

# F) Current policies and legislation infrastructure on environment and climate sensitivity Environmental policy

Protection of the environment and natural resources is handled in a comprehensive and detailed manner in legislation and policy documents in our country. Published in the process of integration into the European Union and / or updated with Turkiye's laws and regulations, there is a strong environmental legislation of Turkiye. On the other hand, it is seen that there is an area of improvement regarding the effective and generalization of the applications of the current legislation and their effective implementation. In addition, it is important to generate data in order to monitor the performance in environment and natural resource management. In this direction, it is seen that there is a development area in our country in line with the provision of environmental and natural resource management data and the standardization of the data provided. It is important to standardize the data in order to be able to monitor the realization of the determined strategies, goals and actions on a common platform among institutions across the country and to compare them with international data when necessary. Similarly, the development of incentives and penalties necessary for compliance with the legislation is of great importance in terms of environmental protection. In addition, it is important to collect and process data that will be input in the formation of environmental policies, and to establish a holistic and sustainable data transfer mechanism between authorized institutions, in terms of ensuring effective implementation.

The main purpose of the Tenth Development Plan has been determined as "Increasing the environmental awareness and awareness of the society while ensuring economic and social development, protecting the environment and improving its quality so as to ensure that today and future generations benefit from limited natural resources". Within the scope of the plan, it is aimed to ensure green growth by taking advantage of new business opportunities, income sources, development of products and technologies in areas such as energy,



industry, agriculture, transportation, construction, services and urbanization. In this direction, it is aimed to shape the Strategy and Action Plans related to environment and resource management arising from the Tenth Development Plan with the main goal of sustainable use of resources. During the Plan period, many policy and strategy documents related to the subject were published and different studies were carried out on the management of the environment and natural resources. However, and especially to be associated with the industry growth is an important step in the growth rate in the environment and natural resources management issues in Turkiye in the future sustainability axis of utmost importance. National and international dynamics may also require Turkiye's development priorities be addressing in a manner consistent with the strategy of our country's future without detriment to economic development priority areas designed taking into consideration environmental priorities should be identified.

In this respect, the Eleventh Development Plan period prioritization of key objectives seen in Turkey's environmental benefits and the area of sustainable management of natural resources are summarized below:

- a) Creating a climate-friendly, low-carbon development model;
- b) Research and development focused on good environmental status (R&D)and innovation strategies and dissemination of their applications;
- c) Developing national and sectoral capacity on environment and natural resource management;
- d) Increasing awareness about sustainability, environment and natural resources;
- e) Developing the monitoring and data management capacity and infrastructure in order to determine the current situation regarding the environment and natural resources on a national basis and monitoring of future changes;
- f) To comply with the Sustainable Development Goals and to determine all the strategies and action plans created in the Plan period in accordance with the Sustainable Development Goals;
- g) Diversification of incentives and tools related to environmental management and protection.

The National Youth and Sports Policy Document, approved as the Council of Ministers Decision No. 2012/4242 and published in the Official Gazette No. 28541 on January 27, 2013, is the most important reference policy document that defines the priorities of young people in the field of environment and climate sensitivity. In the said Policy Document; "Today, increasing environmental problems can negatively affect the lives of individuals and it is emphasized that they constitute an important obstacle for future generations to reach their right to live in healthy conditions; In order to eliminate or reduce environmental problems, it is primarily aimed to raise environmental awareness to individuals and to create effective and applicable policies to raise environmental awareness among young people and to increase the awareness of young people about environmental problems.

In this context, in the said Policy Document; The policies and targets regarding environmental and climate sensitivity are as follows.

# Policy #1: Making young people more sensitive to the environment and increasing their awareness Goals:

- To increase environmental awareness, responsibility and awareness through education programs and social responsibility projects for young people;
- To include the subject of environmental awareness in the curriculum at all educational levels;
- To encourage young people to use vehicles and products that do not harm the environment;
- To raise awareness among young people about efficient use of energy resources;
- To provide information on recycling, to ensure the widespread use of recycling points and to encourage their use;
- To work on providing media support for the preparation of programs containing warning messages to protect the environment and increase environmental awareness among young people;



• To inform young people about all kinds of energy sources (including nuclear energy), especially renewable energy, in the light of scientific facts, to create the necessary awareness in young people about the relationship between energy and environment.

### **Stakeholders (Project Partners)**

The Ministry of National Education, the Ministry of Youth and Sports, the Ministry of Family and Social Policies, the Ministry of Environment and Urbanization, the Ministry of Energy and Natural Resources, the Ministry of Forestry and Water Affairs, the Radio and Television Supreme Council, Universities, Media Institutions, Local Authorities, Non-Governmental Organizations.

**Policy #2:** Increasing the activities carried out in nature in order to spread the love of nature among young people. **Goals:** 

- To work on raising and developing environmental awareness among young people by encouraging nature sports;
- To create environmental education parks that will enable young people to be in touch with the environment, spend time in nature and love nature;
- To organize activities that will enable young people to get to know nature and spend time in nature in youth centers, youth camps and projects for young people;
- Increasing the number of youth nature camps to enable more young people to benefit from them;
- To encourage the branches of scouting, mountaineering, cycling, skiing, orienteering, etc.;

## **Stakeholders (Project Partners)**

The Ministry of Youth and Sports, the Ministry of National Education, Universities, Local Authorities, Non-Governmental Organizations.

The Strategic Plan of the Ministry of National Education: The Strategic Plan covering the period of 2015-2018 states that education and training are vital for ensuring sustainable social and economic development, increasing the quality of life of the society and adapting the young population to changing conditions and taking our country's place in global competition. One of the strategies of the "Quality in Education and Training" in the Plan is stated as "School safety, environmental awareness, compliance with individuals who need special education, etc. For increasing the spatial quality of schools, standards determined for educational environments, showing compliance with the standards such as the flags blue, green, etc. indicating as applications launching" (46). Studies are carried out to include the subject in the curriculum. In addition, the issue of raising public awareness about the function of education in sustainable economic development is defined as an opportunity for the sector.

Environment and sustainability should be handled at different levels at all levels of education and training processes. As a result of the updates made in the primary and secondary education programs of the Ministry of National Education, the issues regarding environmental awareness and raising awareness should be conveyed to the students in a more effective and practical way. It should be ensured that students are educated as "environmental literate" in the protection of environment, biological diversity and natural resources in all education levels, and educational technologies should be used for this. In order for the environment to be included in the curriculum as a lesson and to carry out adaptation studies for the protection of the environment in other courses and to strengthen the culture of claiming rights in environmental issues, practices that emphasize the importance of recycling, water and energy saving should be initiated in all schools, examples of good practices should be increased and disseminated.

Rewarding mechanisms should be developed to encourage those who do good practice. Environmental awareness and awareness should be increased in line with the lifelong learning perspective in order to raise generations that are more sensitive to the environment and living things in it.

For this, awareness raising and information sharing in formal and non-formal education should be provided, learning by doing and experiencing should be brought to the forefront, project-based learning should be expanded, and institutions should be provided with effective training on their subjects and sectors. An active network including

local governments, municipalities and city councils should be established, and knowledge and experience sharing should be strengthened for sustainable management of the environment and resources. Educational tools that will increase problem solving skills/competencies regarding environmental problems and solution suggestions should be designed. adding lessons on environment and sustainability, Business Management, Life Cycle Analysis, Green Economy, Environmental Management etc.. from the Environmental Engineering Perspective to the finance curriculum of all relevant faculties of universities should be considered. It is important to to develop public awareness campaigns that include exemplary practices that touch daily life on these issues identifying the issues that the management of the environment and natural resources directly affect the lives of households such as food health and prevention of waste.

### **Environmental Legislation**

In the current situation in Turkiye, 2872 numbered Environmental Law regarding the environment and environment protection and Law No. 5312 on the Principles of Emergency Response and Compensation for Damages in Pollution of the Seas with Oil and Other Hazardous Substances are in force. The unit established in the Ministry of Environment and Urbanization for the implementation of these laws and the relevant regulations are as follows:

### Zero Waste and Waste Treatment Department

- Packaging Waste Control Regulation;
- Regulation on Control of Waste Electrical and Electronic Equipment;
- Regulation on Control of Waste Batteries and Accumulators;
- Regulation on Management of Waste Oils;
- Regulation on the Landfill of Wastes;
- Regulation on Incineration of Waste;
- Regulation on Control of Waste Vegetable Oils;
- Regulation on Control of Excavation Soil, Construction and Demolition Wastes;
- Regulation on Recycling Participation Share RG: 31.12.2019 30995;
- Regulation on Reclamation of Lands Degraded by Mining Activities;
- Waste Management Regulation;
- Regulation on the Control of End of Life Vehicles;
- Regulation on Control of End of Life Tires;
- Regulation on Control of Polychlorinated Biphenyl and Polychlorinated Terphenyls;
- Medical Waste Control Regulation;
- Mining Waste Regulation;
- Regulation Amending the Mining Waste Regulation;
- Zero Waste Regulation.

### **Marine and Coastal Management Department**

• Implementation Regulation of the Law on the Principles of Emergency Response and Compensation for Damages in Pollution of the Marine Environment with Oil and Other.

### **Hazardous Substances**

- Regulation on Procurement of Goods and Services within the Scope of the Law on Emergency Response and Compensation for Damages in Pollution of the Marine Environment by Oil and Other Hazardous Substances;
- Regulation on Receiving Waste from Ships and Control of Wastes;
- Regulation on the Management of Swimming Water Quality;
- Regulation on Environmental Management of Dredging Material;
- Regulation on the Implementation of the Environmental Protection Protocol in Antarctica.



## Air Management Department

- Regulation on Reducing the Sulfur Ratio in Some Fuel Types;
- Regulation on Evaluation and Management of Environmental Noise;
- Air Quality Assessment and Management Regulation;
- Regulation on Control of Air Pollution Caused by Heating;
- Regulation on Measures to be Taken for the Protection of Environment and Public Health from the Adverse;
- Effects of Non-ionizing Radiation;
- Regulation on Control of Odor Emissions;
- Industrial Air Pollution Control Regulation;
- Exhaust Gas Emission Control Regulation.

### **Chemicals Management Department**

- Regulation on Test Methods to be Applied in Determination of Physico-chemical, Toxicological and Ecotoxicological Properties of Substances and Mixtures;
- Regulation on Classification, Labeling and Packaging of Substances and Mixtures;
- Regulation on Safety Data Sheets Regarding Hazardous Substances and Mixtures;
- Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals;
- Regulation on Persistent Organic Pollutants.

### Water and Soil Management Department

- Regulation on the Procedures and Principles for Determining the Tariffs for Wastewater Infrastructure and Domestic Solid Waste Disposal Facilities;
- Regulation on the Procedures and Principles for Wastewater Treatment Plants to Benefit from Incentive Measures in accordance with Article 29 of the Environmental Law;
- Regulation on the Use of Domestic and Urban Treatment Sludges in Soil;
- Regulation on Urban Wastewater Treatment;
- Regulation on the Control of the Purchase and Operation of Sand, Gravel and Similar Materials;
- Water Pollution Control Regulation;
- Regulation on Control of Pollution Caused by Hazardous Substances in Water and Its Environment;
- Regulation on Control of Soil Pollution and Point Source Contaminated Sites.

### **Management Services and Finance Department**

- Regulation on Monitoring and Collection of Environmental Revenues and Utilization of the Appropriation Projected Against Collection;
- Regulation on Detection of Violation, Penalty and Collection of Administrative Fines According to the Environmental Law;
- Regulation on Working Procedures and Principles of Higher Environment Board and Local Environmental Boards.

### **Climate Change and Adaptation Department**

• Regulation on Tracking of Greenhouse Gas Emissions;

# G) Organizations operating in the area of environment and ciimate

### **Civil society organizations**

• Associations

Graphic 1. Number of active associations by regions





Considering the number of active associations in Turkiye, it is understood that the percentage of associations are of 34,76% in the Marmara Region, 18,29% in the Central Anatolia Region, 13,19% in the Aegean region, of 11,83% in the Black Sea region and of 10,09% in the Mediterranean region.



### Graphic 2. Number of active associations by types



According to the types, when the number of associations is examined, it is seen that the highest number of professional and solidarity associations are active (37,524 In Turkiye, it is understood that the number of environment and natural animal protection associations is 2,530. When the number of member of associations by gender distribution operating in all of Türkiye is studied, it is understood that 19,51% of the members are women and 79,34% are men.



Graph 3. Member Statistics Information (All)

Graph 4. Number of active associations by years



According to the years when the number of associations operating in Turkiye are analyzed, it is seen that the number of associations increased over the years, the number of active associations was 120,241 in 2020, and the number of associations increased by 1,900 compared to the previous year.

There are 184 associations operating in the field of Environment, Water and Natural Life Protection in Ankara Province. When we look at the number of associations in Ankara in the last three years, 10,901 associations in 2018, 11,318 in 2019 and 11,627 in 2020 are actively operating. These associations have 591,064 male members, 158,395 female members and 14,834 legal person members. There are 113 associations operating in the field of

Environment, Water and Wildlife Protection in Ankara Province. In the Central Anatolia Region where Ankara is located, there are Ankara, Eskişehir, Çankırı, Yozgat, Sivas, Kayseri, Nevşehir, Niğde, Aksaray, Konya, Kırıkkale, Kırşehir and Karaman provinces.

Provinces	N.º of male members	N.º of female members	Total
Ankara	591,434	159,229	750,663
Eskişehir	72,911	20,197	93,108
Çankırı	15,797	1,314	17,111
Yozgat	11,117	1,244	12,361
Sivas	31,112	5,023	36,135
Kayseri	96,483	17,510	113,993
Nevşehir	9,400	1,430	10,830
Niğde	9,816	1,263	11,079
Aksaray	8,847	941	9,788
Konya	102,488	14,736	117,224
Kırıkkale	24,704	6,888	31,592
Kırşehir	12,127	1,976	14,103
Karaman	16,346	3,264	19,610
Total	1.002,582	235,015	1.237,597

### Table 3.Number of Association Members by City

In the Central Anatolia Region, where the city of Ankara is located, Associations operating in the field of Environment, Water and Wildlife Protection have a total of 1.237,597 members, including 1.002,582 men and 235,015 women. Starting from secondary school, high school and university students and associations working for the benefit of society are operating to increase the sensitivity of adults to environmental and climate problems.

Our potential target group will be associations operating in Mersin (79), non-governmental organizations, universities, middle school and high school students for the educational activities to be held in the Green Thinking Center to be opened within the scope of the project activities.

In the next part of the study, national and international centered environmental and nature conservation organizations and their activities for young people will be discussed.

### • Significant National Environment and Nature Protection Platforms operating in Turkiye

There are many international, national and at local scale associations related to serving environmental and nature protection in Turkiye. In this study, associations which operates in international and national scale in Turkiye, forming from "young volunteers" or acting with "young volunteers" and / or "youth education" oriented activities were examined.

### **Young Volunteers**

The General Directorate of Education, Culture and Research of the Ministry of Youth and Sports conducts a program named "Young Volunteers" where young people can work on a voluntary basis in the categories of education, environment, sports, culture and tourism, health and social services, and disaster and emergency. This program enables young people to integrate with certain voluntary organizations through the Young Volunteers website and to carry out their activities in this way, instead of performing their volunteering activities alone. The main purpose of the program is to increase the participation of young volunteers in non-governmental organizations and to ensure that these young people engage in activities that support their success. A total of 8 thousand 47 people have applied to volunteer for the program, of which target audience is 14 years and above, and 692 postings of 483 institutions have been posted on the website. It aims to publish volunteering opportunities in different geographies

of the world as well as domestic volunteering activities so that volunteers serve not only where they live, but also the whole world. Young Volunteers Site offers different alternatives to prospective teachers (candidates of teachers) for the THU (Community Service Practices) course, which is taught as a compulsory course in Education Faculties of Universities. Students of the Faculty of Education can apply to the volunteering announcements published on the site with the phrase "Included in the THU(Community Service Practices) Course", with the approval of their advisors by realizing the implementation phase of the course (Anonymous, 2017-1).

## Young TEMA

The TEMA foundation founded by Toprak Dede Hayrettin karaca and Yaprak Dede A. Nihat Gökyiğit in 1992 consisting of university students is a voluntary organization. Young TEMA conducts voluntary studies to ensure that young people are sensitive to the problems of the environment they live in and take an active role in solving the problems, and aims to contribute to their being individuals with an ecological perspective. Young TEMA is formed as a club or student community in universities. Volunteer students who want to participate in the studies come together and establish a club or student community in line with the Young TEMA directive, with the support of an advisor and lecturer. ith the approval and support of the university administration, the established student community continues its activities in coordination with TEMA Foundation Center, especially with the TEMA Representation Office in the city where the university is affiliated. Young TEMA University continues its activities in 107 universities as of 2015. Young TEMA members carry out stand / promotional activities to promote and ensure their participation to other students, organize seminars and panels within the scope of informative studies, organize sapling planting activities, and support the activities of TEMA Representatives/District Responsibilities. Young Tema members take part in social activities such as spreading TEMA Foundation campaigns, organizing events on special days related to the environment, organizing nature trips, and they carry out teamwork in coordination. (Ano-nim, 2017-2).

### **Turkey's Nature Protection Association**

Founded in 1955 by forty members Turkey's Nature Protection Association, has been collaboratingwith the "International Union for Conservation of Nature" IUCN since 1963. This association; operates activities about all natural resources of the country, especially steppe and mountain ecosystems, forests, agricultural lands, soil and water resources, meadows and pastures, seas, lakes, rivers, wetlands, caves, and the ecological processes and cycles they contain, conservation and use of logical diversity for sustainable development within ecosystem integrity; To raise the awareness of the society on the issues of the city, environment and quality, to organize activities such as education, panel, seminar etc. to protect the urban nature and to organize trips; raising awareness and training of the disabled, children and young people, women, peasants and farmers, rural residents, industrialists, tourism professionals and sportsmen on environmental and cultural values; execution of extension, vocational courses, continuing education centers and R&D services, entrepreneurship and employment activities in related subjects; environmentally friendly agricultural practices, plant breeding studies, environmental labels and activities for rural development; carrying out projects and activities to prevent violence against humans, animals and the environment; operates in order to prevent all kinds of environmental pollution affecting the living environments of our country. The youth commission of the association was established to ensure that young people aged 18-25 participate voluntarily activities in nature conservation and prevention of environmental pollution. Young people who want to contribute to the work of the youth commission contact with the association by filling the electronic form on the site (Anonymous, 2017-3).

### Youth Tourism Association (GENÇTUR)

Erasmus+

GENÇTUR is an association after the adoption of the possibilities offered through the European Commision Youth Program "program countries" in order to provide Turkish Youth January 7, 2002, servicing in the field of youth tourism since 1979 while both sending Turkish volunteers to international Voluntary Work Camps and also bringing foreing volunteers to Turkiye by organizing similiar camps in the scope of Turkiye GENÇTURK under the European Commision Youth Program. GENÇTUR is a social enterprise whose aim is to develop opportunities for young people to participate in all kinds of activities that will support their individual, social and cultural development under the most appropriate conditions and to ensure that they reach the existing opportunities in the fastest way possible. GENÇTUR, by way of the organizations with its membership, it cooperates with 163 organizations in 85 countries and offers all kinds of opportunities for young people to expand their perspective on the World. Between the years 1989 and 1998, it served as ALLIAN-CE Vice Chairman for 3 terms. More than 1500 International Volunteer Labor Camps, Children and Teenager (Çocuk ve Yenigenç) Camp and My Dreams Come True project were realized and more than 15,400 Turkish and foreign volunteers, 10-17 children and new young people were participated in these projects' activities. Physical, cultural and social activities are carried out in the international camps. There are also activities such as school paint and whitewash, environmental cleaning, tree planting, tree care, park and garden construction, beach cleaning, school surrounding wall construction, water canal excavation, school garden arrangement, sports field arrangement, paving stone on roads, picnic areas environmental organization. (Anonymous, 2017-4).

### **Erasmus+ Youth Program**

The Erasmus+ Program, which was put into practice between 2014 and 2020, is a new program that combines many programs, opportunities and networks, especially the Lifelong Learning and Youth Programs, which were previously implemented by the European Union in the fields of education and youth. There are European opportunities for citizens of all ages and sectors in the Erasmus + world. In Erasmus + Youth activities, one of these programs, young people, those working in the youth field and all citizens who want to be involved in the projects for young people can benefit. Erasmus+ Youth, non-governmental organizations, public institutions, active profit-making organizations in the field of social responsibility and sports-related organizations, while providing the necessary support for international cooperation in the field of education and youth, at the same time to offer individual or community opportunities to young people. Young people can participate in educational activities at home and abroad or do European Voluntary Service. They can participate in projects prepared by other groups and organizations as a participant. on the condition that establishing a group of at least 4 people, it provides project support to young people who are not members of any organization but want to prepare their own projects. One of the subgroups of these projects, European Voluntary Service, is an activity that enables young people to take part in a social project in an EU country of their choice within 2-12 months. European Voluntary Service, which also includes basic language training (5%), is open to all young people aged between 17-30. The aim of the European Voluntary Service (EVS) is to support the participation of young people in various forms of volunteer activities inside and outside the European Union. Under this Action, young people take part in non-profit, unpaid activities individually or in groups. Volunteers' eating, drinking, accommodation, visa, insurance etc. expenses and pocket money are covered by the National Agency (Anonymous, 2017-5).

### Wildlife Conservation Association (WWF)

Founded in 1975, Wildlife Conservation Society, WWF - Turkiye is in the fight for the nature conservation organizations in Turkiye and one of the pioneers in the professionalization of civil society organizations. WWF Turkey which is global, politically independent, multicultural and neutral, constitudes a tangible nature protection solutions leveraging benefitting combination of trainings and with the field projects, policy initiatives, capacity building. It involves local people and communities in the planning and execution of field programs, taking into account their cultural and economic needs, and establishes partnerships with other organizations, governments, business and local communities. Using the financial resources obtained from its supporters, it carries out its projects efficiently and at low cost. Although WWF - Turkiye is not a separate platform designed for volunteer young people, young people constitute a majority of its volunteer members. The association aims to change the consumption habits and worldview of young people working on a voluntary basis with the view of nature conservation and in



nature conservation activities, young people are assigned in different ways according to their interests and expertise opening stands at the university spring festival they study, to guide for introducing to the other people in their environment for WWF, to come together according to set time by WWF-Turkiye are among these tasks. (Anonymous, 2017-6).

### Nature Association (Doğa Derneği)

The Nature Association (Doğa Derneği), Founded in 2002, and one of the first organizations to recognize"Mother Nature's Rights Universal Declaration in Turkiye", carries on many activities for making live "Key Biodiversity Areas" in Turkiye and in the the world. With partners one hundred and twenty countries, Nature Association, being Turkiye partner of the largest nature conservation network World Bird Protection Agency (Birdlife International) in the world, has undertaken many projects both locally and also an international scale. Nature Association (Doğa Derneği), which has been working both in Anatolia and in different parts of the world since its establishment, continues its activities with hundreds of volunteers today. The basic value that brings volunteers together is that human being is nature too, that is the thought of "Nature is me. Nature is you. Nature is we". The association carries works to understand, explain and keep these relationships alive with the motto of "relationships based on good deeds". For this reason, the base of the association consists of a wide network ranging from students to villagers, from researchers to artists, from travelers to birdwatchers and activists. For conveying the knowledge, experience and valuable knowledge gained from the studies and researches they have done in Anatolia and all over the world among next generations, the association pioneered the establishment of Seferihisar Nature School. Every year, Nature Association (Doğa Derneği) organizes courses/activities in different categories generally appealing to young people and announces these activities under the title of "Nature School" on its own page. (Anonymous, 2017-7).

### Nest (YUVA)

YUVA was founded in 2010 by Erdem Vardar, who has been advocating for nature and human rights in Europe, Asia and in Turklye for a long time, and Özge Sönmez, a non-formal educator working with young people, to change the world, to make it better, to make a fairer and more sustainable place and in order to ensure remaining a home for all living things. The association carries out education and advocacy activities in order to promote a life style in harmony with nature and to protect the rights of nature. The association works to support the development of adults and young people through out-of-school education and lifelong learning, to increase their ecological awareness and to contribute to the eradication of poverty. All trainings are participant-oriented and voluntary (Anonymous, 2017-8).

### Wildlife Conservation Foundation (WCF)

Founded in 2011,(DAYKO)- Foundation for the Conservation of Natural Life carries out works for the sustainable use and management of natural resources, giving priority areas a protection status, and ensuring that the ecosystems of natural habitats being handed on to future generations. Foundation for the Conservation of Natural Life for this purpose; conducts conservation projects; It carries out activities for the implementation and development of the relevant laws; It cooperates with the public, local or central organizations, and legal real persons and managers. The Wildlife Conservation Foundation, in addition to the other activities it carries out, by organising under the roof of nature camps, aims to bring young people together, to raise awareness on environmental problems in a different way, by staying alone with nature, and to contribute to their being nature-friendly in a capacity by defending the nature against these existing threats Primarily targeted the participation of young people between the ages of 18 and 27 living in disadvantaged regions due to wrong environmental policies throughout the country to the nature camps and also it is also among its targets to enable the youth stuck in the complexity of cities to meet with nature. In the camps, by organizing workshops on topics such as sustainable development and environmental policies, and clean energy, youth are informed about what they can do against these threats they face in their daily lives (Anonymous, 2017-9).

## **Global Environment Association (GEO)**

Global Environment Association (Global Environment Organization - GEO) became operational in 2012 in order to achieve the targets, since 2005 working together in Turkiye and Europe, in different countries all work done by volunteers of nature in order to increase its impact these executings in an organizational way for reaching out to new volunteers primarily determined in Turkiye and then globally. The aim of GEO is to raise awareness on issues such as environmental pollution, inefficient use of water resources, deforestation, climate change, soil erosion and food shortage, to carry out education and awareness studies, to develop scientific-based and supported research and conservation projects, and to carry out studies by developing international collaborations. The association, through the workshops, prepared for young people in national and international education projects, applied trainings, presentations, games, field studies, providing participants with a participatory approach to the environmental problems and environmental rights, awareness of their rights and reflect them on daily practices and decision-making processes, conducts studies. (Anonymous, 2017-10).

# Environmental Protection and Research Foundation (ÇEVKOR)

The Environmental Protection and Research Foundation (ÇEVKOR) is a foundation founded in 1991 by faculty members at Ege and Do-kuz Eylül universities. The purpose of the foundation is to protect, develop and maintain natural, historical and cultural assets, to encourage and develop systems that will not cause environmental pollution, to increase environmental awareness in all segments of the society and to conduct educational activities on this subject. Activities of ÇEVKOR include Ecology Summer Schools, Environmental Education Books, National and International Symposiums and Congresses, Cleaning, End of Tree Cutting, One Bird's Nest on Each Balcony, Afforestation Studies, Young Ecologists Education Program, Environmental Research Projects, Environmental Slogans. Organizing various competitions on subjects such as Environmentalist Literary Works (Anonymous, 2017-11).

# **Clean Sea Association (TURMEPA)**

Clean Sea Association (TURMEPA) is a civil society movement started under the founder chairman of Rahmi M.Koç in order to protect our country's coastal and marine to become a national priority and for transferring a livable Turkiye surrounding clean seas for future generations on 8 April 1994. TURMEPA, which had 29 members when it was founded, today, is a non-governmental organization with nearly 1000 members, 350 of them are corporate. In TURMEPA, volunteers were gathered under 4 different categories. "Online Volunteer": Any individual from any age group, living at home, with special needs, with a very busy schedule, student, retired, can be a participant. Social media channels are active with short films and photos. After online or face-to-face orientations within the time periods determined by the center, on their personal social media accounts, "What is Happening in Our World?" Participatory advocacy and advocacy of the Law of the Sea Participant advocacy they are individuals who perform national and international arena. They also collaborate across borders in writing, editing and translating, consulting, research, project development and management. "Education Volunteer": Those who are between the ages of 20-50, who have a volunteer or professional education background, who support the teachers-children and adults of the trainings included in the TURMEPA Volunteering procedure as a volunteer trainer, and after receiving the necessary training of trainers, are individuals who are active in target provinces. "Activity Volunteer": Individuals from all age groups. They take part in important day events organized by the association as facilitators, organizers and participants in national and international arena and in all tasks parallel to the content of the event. They provide support in matters related to communication activities and designs (stand set-up, relations with local media, etc.). Community Volunteering: It is a group of volunteers formed by organizations in universities, public and private sectors and consisting of at least 5 people whose goals and objectives are determined in the national arena. They are described as Marine Ambassadors. They carry out their activities in line with the Community Guidelines (Anonymous, 2017-12).


## Turkiye Environmental Education Foundation (TÜRÇEV)

The program, whose international name is "Young Reporters for the Environment, YRE" and named as the Young Spokesmen of the Environment, named as ÇGS in our country, was first implemented in France in 1991 and moved to the international level in 1994 by the European Environmental Education Foundation (FEE). Our country joined the program in 1995. While TÜRÇEV started the Blue Flag Program following its establishment, again under the umbrella of FEE; In 1995, Eco-Schools, in 1996 Young Spokespersons of the Environment and in 2004, Forestry Programs in Schools started to be implemented in our country. In 2011, the International Green Key Award Program was launched in our country. The "Young Spokesperson of the Environment" program is an international program that encourages young people to understand environmental problems and issues and provides environmental education in order to raise their awareness. For this purpose, a school network has been established with the participation of schools from 34 countries and news about the environment. As an educational tool, the method of environmental journalism, which attracts the attention of young people, has been adopted, and students are encouraged to research and examine environmental problems and issues in their school area, to produce news articles, photographs and short videos. So, it is aimed to raise young people as environmentally sensitive citizens by providing an environment where they can make their voices heard on conveying environmental injustices, while creating public opinion in order to ensure that environmental problems are corrected by the authorities, and experincing the the sense of they can change things. 750,000 students aged between 11 and 21 in 35 countries since 1996; by doing environmental journalism, they researched and examined environmental problems and issues, and published their findings and solutions by publishing news articles, photographs and video reporting. The main purpose of this program is to raise public opinion in order to express environmental injustices and to ensure that they are corrected by the authorities, and to raise young people as environmentally sensitive citizens by giving them the feeling that they can change some things (Anonymous, 2017-13).

#### Turkiye Environment Protection and Greening Institution (TÜRÇEK)

Turkiye Greening and Environmental Protection Institution (TÜRÇEK) was established in Istanbul in 1972 as one of the first of Turkiye's voluntary environmental organizations. TÜRÇEK has a corporate structure body with five thousand members and active volunteers, as well as twenty employees, who can influence national and international nature conservation and environmental policies with scientific, economic and social-based approaches playing an active and unifying role in national and international nature conservation organizations. The aim of TÜRÇEK is to influence the nature and environmental protection policies with an approach that takes human beings into consideration, to be a unifying and empowering organization for regional, local and national nature conservation organizations, to give importance to education, based on an institutional structure and memory based on active volunteers to be a recognized, reliable nature and environmental protection institution. "Acacia Summits" were traditionally held in Sabanci University Tuzla Campus in April every year, starting in 2002 in cooperation with TÜRÇEK and Sabanci University Social Awareness Projects.

Until 2008, the project reached 1,396 environmentalist young people. During the 3-day Acacia Summits, Sessions on environmental issues and subjects, mini fairs and promotional sessions, entertainments and workshops were organized, where NGOs and University clubs introduced themselves. Acacia Summits have dealt with many different issues related to environmental problems so far and lasted until 2008. The main purpose of the Acacia Summits was to bring together the young people working on environmental studies through non-governmental organizations, University Clubs or individual initiatives on democratic platforms and to ensure that young environmentalists have a say in environmental policies. "Youth in Turkiye" which is written on the frame of the 2007 National Human Development Report, UNDP selected and awarded Acacia Youth Environment Summits project for the first time as one of the best youth projects that encourage youth to increase their capabilities. In 2014, by focusing on global developing problems, TÜRÇEK re-establishes its institutional structure and its Works. It continues its intensive efforts to restart the Acacia Summits, which will increase the interest and participation of the university youth (Anonymous, 2017-14).



## • Public institutions

## **Environment and Urban Ministry**

The Ministry of Environment and Urbanization is the only authorized public institution for the protection and improvement of the environment, determination of policies for the prevention of environmental pollution and for the necessary actions.

The duties and powers of the Ministry of Environment and Urbanization are determined in Article 97 of Presidential Decree No. 1. According to this; Ministry of Environment and Urbanization "To carry out the necessary studies, to develop standards and criteria, to prepare programs in order to determine the principles and policies for the protection and improvement of the environment and the prevention of environmental pollution; In this context, training, research, project design, action plans and pollution maps to formulate, to determine and monitor their implementation principles, to carry out business and operations related to climate change, to evaluate the environmental impacts of every kind of plants and activities to that create or are likely to cause pollution by leaving solid, liquid and gaseous waste to receiving environments; It is responsible for monitoring, permitting, inspecting and controlling the mentioned facilities and activities and also responsible for controlling the noise. These duties are carried out by the Provincial Directorate of Environment and Urbanization in Ankara.

#### • Schools

### **Ministry of National Education Official School Numbers**

Туре	Total	N.º students	Male	Female
Secondary (Official)	16,874	5.099,275	2.604,908	2.494,367
Lycee (Official): General+Vocational	12,506	5.649,594	3.014,072	2.635,522

#### **Primary Education Institutions:**

Compulsory primary education includes children aged 5 years (children over 66 months, born between the 1st and 3rd months of  $20^{**}$ ) – 13 age group. (Includes children who complete 66 months as of the end of September of the enrollment year and children who finish 13 and begin 14 at the end of the academic year).

The purpose of primary education; To ensure that every Turkish child acquires the necessary basic knowledge, skills, behaviors and habits in order to be a good citizen, grow up in accordance with the understanding of national morality, and prepare for life and higher education in terms of interests, aptitudes and abilities. Primary education institutions; It consists of four-year compulsory primary schools and four-year compulsory and different secondary schools and imam hatip secondary schools.

#### Secondary Education:

Secondary education; based on primary education, covers all general, vocational and technical education institutions providing at least four-year compulsory, formal or non-formal education. The aims and duties of secondary education; In accordance with the general objectives and basic principles of National Education,

- 1. To give all students a common general culture at the secondary education level, to give them the awareness and power of recognizing personal and social problems, seeking solutions and contributing to the country's economic, social and cultural development,
- 2. To prepare students for higher education or life and business fields acording to and inline with their interests, skills and abilities with various programs and schools. While fulfilling these tasks, a balance is maintained between the desires and abilities of the students and the needs of the society.



#### The Number of Students in Ankara Province

Туре	Total	N.º students	Male	Female
Secondary School	808	338,066	171,036	167,030
Secondary Education	895	369,226	192,456	176,770

# **Eco-Schools**

Eco-Schools Program is a program applied in preschool, primary and secondary schools to provide environmental awareness, environmental management and sustainable development education. With a participatory approach, students at schools both learn about environmental issues and take an active role in raising awareness of their families, local administrations and non-governmental organizations (NGOs) on environmental issues. The program also ensures the implementation of an environmental management system based on ISO 14001 / EMAS in schools. To help implement the sustainable development process at the local level, students are guided to take an active role in 7 steps implemented to reduce the environmental impact of the school.

Therefore, eco-schools go beyond teaching in the classroom and play a role in ensuring environmental awareness in other parts of the society. The program includes a holistic school activity for the environment, and its success in the schools where it is implemented depends on the interest of the school administration and teachers, especially the school principal. The most important and integrating factor in the Eco-Schools program is student participation. The efforts of the committee to raise awareness of local people and administrators provide students with the ability to establish dialogue and a good citizenship education.

Eco-Schools Program, besides offering a guiding program to schools on environmental education; It is also an award plan, as giving the Green Flag awards to the schools that have achieved outstanding success with their work and environmental education within the program. The Green Flag is an eco-label that symbolizes the internationally recognized and respected, environmentally conscious school. The validity period of the award is 2 years, so the award must be renewed every two years. Eco-Schools is a long-term program. Information about the Green Flag award application is also provided.

# The benefits of the program

As well as about the environment, the implementation of the program gives students habits that they will use throughout their lives and that will affect their success.

Students:

- It is a group member and develops a new identity;
- Getting used to group work, creates a participatory structure;
- Improves the ability to recognize problems, generate solutions, and discuss them;
- The ability to use initiative and decision-making develops;
- The ability to plan and write reports develops;
- Consumption habits change, wastefulness is prevented;
- Awareness of protecting natural resources develops.

In addition to these, the benefits of the program to SCHOOL are as follows:

- Keeps cleanliness and order constant;
- Water and electricity savings are provided by the student's hand;
- The school is owned by students;
- The school is the center of the region where it is located;
- It is recognized locally, nationally and even internationally;
- If he/she wishes, he/she can interact at national and international levels through our communication network.



## **Program Requirements**

In order for the program to be successfully implemented in a school, it must be ensured that the following requirements are met:

- 1. Support of the school principal and administrators;
- 2. Children's desire to participate in activities and decision-making mechanisms at all stages:
  - Active participation of employees;
  - Willingness to act to encourage long-term change.

#### • The schools which deserves the award of Green Flag in the general of Turkiye

In the educational year 2019-2020 in Turkiye, Green Flag application has been made from 40 provinces, at the result of study 415 more schools have gained the right to receive the Green Flag. Totaly, at the end of the 2019-2020 academic year, the Green Flags are being waved in 859 schools in our country. 76 schools in Ankara still have the Green Flag Award. The Green Flag Award is valid for 2 years, in order for the flag to be hoisted after the second year, the subject must be changed for the continuation of the program and also a renewal of aplication is needed in the second year.

#### • The Structure of the Board of Inspectors

With an understanding that emphasizes the preventive, educational and guidance approach regarding the activities and transactions of the Ministry's organization and personnel and all kinds of institutions under the control of the Ministry, Inspection, research, examination, investigation work and operations are carried out by Ministry Education Inspectors within the framework of the duties and authorities of the Ministry. There are Ministry of Education Chief Inspector, Ministry Education Inspector, Ministry Education Deputy Inspector staff in the Inspection Board and the number of inspectors currently employed are shown in Table 4.

Title	Norm	Available
Ministrial Chief Inspector	50	44
Ministrial Inspector	450	448
Ministrial Asistant Inspector	250	0

Table 4. Norms and numbers of inspectors in the inspection board

According to Table 4, although there are 750 norm staff in total in the Inspection Board, the total number of inspectors currently working is 492. Since the Ministry of Education Assistant Inspector norm has not been used yet, there is no assistant inspector in the Inspection Board. The distribution of the workload of existing inspectors in terms of the number of inspection and inspection-investigation tasks is shown in Table 5.

Table 5. The number of investigations and inspections conducted by the Ministry inspectors by years (\* as of August 2018)

Туре	2017	2018*
Number of Examination-Investigtion and Preliminary Examination	484	417
Number of Inspected Official / Private Institutions Inspected	564	1,310

According to Table 5, it is seen that the number of institutions inspected by the Ministry of National Education in 2017 increased by 132% as a result of the restructuring of the Inspection Board. Although the number of institutions audited has increased, there has not been a serious change in the number of tasks such as examination and investigation, subject to complaints or acts contrary to the legislation. Considering the total number of institutions inspected in 2017 and 2018, it is seen that the percentage of institutions audited in 2018 was only 1.87% of approximately 70,000 institutions under the control of the Ministry of Education. The number of teachers working



in all institutions in Turkey is considered to be around 1 million. It can be said that approximately 20,000 of the teachers were guided by the Presidency of the Inspection Board. In order to disseminate the results of this project, the results of the project will be disseminated by guiding teachers working in institutions where audit activities are carried out.

# H) How many young people can be given education in green thinking centers?

Through the green thinking center to be established within the association, trainings and seminars in the field of green entrepreneurship will be given locally, with the cooperation of institutions, within the association structure and online. It is planned that 110 young people will receive training in a year, in a month 10 young people in the young thought center that will be established locally within the association. It is envisaged that 250 young people will receive training in face-to-face trainings in institutions per year, 2000 young people in total through online trainings.



Graph 5. The Number of young people to be able to given education yearly

# I) How many NGOs/public/youth groups/schools can be in the seminars to be held at the green thinking centers?

Through the green thinking center to be established within the association, it is planned to organize trainings and seminars with the institutions that are interested in green entrepreneurship and to cooperate with these institutions. In this context, it is planned to organize training or seminars in cooperation with an average of three institutions per month and 12 institutions annually.

Graph 6. The Number of Institution Be Able to Perform Cooperation/Training or Seminar Activities (Monthly/Yearly)





# J) Number of university/business and young people to come together for green employment at the green thinking center?

Through the green thinking center to be established within the association, at least 50% of the enterprises operating in the field of green entrepreneurship in the local area and all universities operating in our region will be interviewed and information about green employment areas and opportunities will be obtained.



Graph 7. The Percentage of enterprise/university able to be in cooperation with the green employment field

With the activities to be carried out in this context, it is planned that 12 young people in our region will come together in a month and also 70 young people in a year, with businesses and universities and receive information about green employment opportunities and opportunities.



Graph 8. The number of young people Able to be informed about green employment field





# "Green Thinking Entrepreneur Youth" 2019-3-TR01-KA205-080177 Intellectual Output 1 (IO1): Environmental-climate sensitivity analysis reports – Annex Turkey #2 –

# 1. Number of existing employment agency/NGOs/public/youth groups/schools Associations/NGO/Youth Groups



Range of associations according to their field of activities (TURKEY, Countrywide): 120,927



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#### Number of active associations by type (Source, DERBIS)



#### Number of associations in Mersin: 2,184.

In Turkey, number of Environment and Natural animal protection associations is 2,555 and this number is understood as 61 in Mersin. In Turkey, there are associations at a large number of international, national and local scale related to serving environmental and nature protection. The Directorate General of Education, Culture and Research of the Ministry of Youth and Sports implements a program named "Young Volunteers" where young people can work on a voluntary basis in the categories of education, environment, sports, culture and tourism, health and social services, and disaster and emergency. Genç TEMA which is founded by ToprakDede Hayrettin Karaca and YaprakDede A. NihatGökyiğit in 1992, is the voluntary organization of the TEMA foundation consisting of university students. Genç TEMA aims to implement voluntary activities for youngsters to have an active role in solving problems and be sensitive to the problems of the environment they live in and contribute to being individuals who have an ecological perspective. Furthermore, Turkey's Nature Protection Society, Youth Tourism Association, Erasmus+ Program, Wildlife Conservation Society, the Nature Society, YUVA (NEST), Wildlife Preserve Foundation, the Global Environment Association, Environmental Protection and Research Foundation, Clean Seas Association (TURMEPA), Turkey Foundation of Environment Education (TÜRÇEV), Turkey Greening and Environmental Protection Institution are civil society organizations.



# Schools

In Turkey:

Secondary schools (Public)



#### General Secondary and VET Schools









# 2. Determination of youth age groups of institutions



A serious literature has been formed within the scope of the cooperation between the two most important institutions investing in the youth field - the European Union (EU) and the Council of Europe – since 1998<sup>1</sup>. Established under this cooperation, the European Youth Policy Information Center (EKCYP) is based on the development and dissemination of research, policies and practices related to youth policies and research across Europe<sup>2</sup>. The EKCYP Communication Network which is created in this context, prepares and publishes country

# Erasmus+

reports on youth participation, volunteering, better understanding of youth with one legal representative on the basis of each European country<sup>3</sup>. On the other hand, a second constitution established under the same cooperation in 2011 is the "European Youth Researchers Pool" (PEYR)<sup>4</sup>. In this context, youth researchers work to increase and disseminate the scientific studies carried out in the field of youth and to ensure the flow of information through the representatives of the country. In both centres, the Turkish representatives have been working since the establishment.

With this collaboration without being limited, both EU and EU Council in which Turkey is a member have already carried out several possibilities for youth and youth workers- especially important transformations of cross-border work in Europe toprograms- and important transformations on behalf of the youth. A "White Paper" on Youth (2001)<sup>5</sup>, the European Youth Pact (2005)<sup>6</sup> and the EU 2010-2018 Youth Strategy<sup>7</sup> and the Europe 2020 Strategy of Moving Youth (also called National AgencyYouth on the Move) together assembling under the title <sup>8</sup> is basis of this orientation within the EU Of the core blocks, perhaps the most important.

# 3. Number of institutions dealing with the environment-climate issue

The institutions dealing with Environment-Climate issue are associations, non-governmental organizations, public institutions, organizations within the body, youth groups and schools.







When the number of associations operating in Turkey is searched according to the years, rising in the number of NGOs through years has been recorded, the number of active associations in 2020 is 120,241. Comparing to the previous year the number of associations has increased 1,900.

## 4. What percentage of young people in institutions can be reached through the project activities

We estimate that we will reach thousands of people with dissemination activities via social media, project website, dissemination activities in which the partners of project involved actively.

With the project; Youth work is thought "out of school" formal education context and in the way that promoting social and personal development of young people through informal and nonformal learning and will focus on participation of voluntary youth and youngsters. Social, cultural and educational activities that increase the chances of young people to integrate and participate in society will be organized. As the diversity in the European context shows, the organization and framework of youth work is largely based on social and educational practices as well as the level of financial and political contribution. This means that historical, cultural and political contexts define the framework of youth work at the national level.

# 5. How many youths can be trained in Green thinking center (estimated)

By means of the green thinking center which will be established within the association, trainings and seminars will be given locally in cooperation with other institutions, within the association and online.



Environmental problems not only threaten human existence but also make our world uninhabitable. One way to stop this catastrophe is for people to abandon their usual thinking and behaviour now and in the future. Therefore, people have to take the responsibility to find solutions to these environmental problems without wasting any time. Today, environmental problems are not a problem that can only be solved by technology or laws. Solving environmental problems is only possible by changing individual behaviour. Change in behaviour necessitates change in people's attitude, knowledge and value judgments. The forming positive attitudes and value judgments towards the environment is possible with environmental education.

Environmental education can be defined as the development of environmental awareness in all segments of society, the acquisition of environmentally sensitive, permanent and positive behavioural changes, the protection of natural, historical, cultural, socio-aesthetic values, active participation and taking part in solving problems. The main purpose of environmental education is to help individuals who have passed through the education and

training process grow as citizens equipped with knowledge, skills and value judgments that will enable and encourage them to gain responsible behaviours about the environment.

6. How many NGOs/public/youth groups/schools can involve in the seminars to be given in green thinking centers (Estimated)

With the help of Green thinking Center which will be established within the Association, training and seminars are planned with the cooperation at local.



# 7. The number of universities/businesses and young people who can come together for green jobs in Green Thinking Centers (Estimated)

In consultation with local businesses and universities within the association, about green employment areas and opportunities;



#### Green Jobs Areas and Opportunities



While the perception of green economy aims to minimize and eliminate risks such as climate change, drought and losses on the ecosystem, it also leads to the emergence of new professions and economic activities with this process. As being expressed the brown jobs and occupational groups which have various risks on the environment are expected to be replaced by the new fields of activity called Green Jobs. The transitions to a green economy have both positive and negative various potential effects. It will require new equipment and infrastructure elements to meet the investments and demand increases in green goods and services. This will cause the number of existing industries and entrepreneurs to expand. In this way, more labour demand and an increase in the number of green jobs will occur primarily in green sectors. In addition, due to the increasing inter-industry relations of expanding industries, insulating materials that provide input to green sectors will create additional employment opportunities in many areas such as cement production, steel and carbon production. The fact that the income generated by these activities, being distributed by additional investment and consumption is one of the positive aspects that are thought to occur with green jobs (ILO, 2012). With economic growth, less pollution and more efficient use of resources, areas such as energy, water, waste, construction, agriculture, forestry, traditional economic sectors and these new employment areas that emerge within the framework of managing structural changes such as potential side effects on vulnerable households are overstressed (UNEP, 2010a). These new employment areas which are being called as green jobs will occur in the agriculture, construction, energy, forestry and transportation sectors. However, in sectors whose natural capital has started to decrease significantly such as in the fishery sector, it may cause job and income losses in the short and medium term in order to increase the natural stocks again. At the same time, it may be necessary to make various investments to upskill the workforce in the sector and to gain new skills. Efficient use of energy in buildings is extremely important in preventing damages to the environment and creating new employment areas. Energy use, greenhouse gas emissions and approximately 30-40% of total waste is originated from buildings.

#### 8. Environment-climate awareness areas

Governments can directly spend on public buildings and schools, hospitals and university buildings in order to use energy more efficiently. In addition, tax incentives can be introduced to private companies and households to promote building insulation. In order to ensure sustainable transportation, governments should be encouraged by international financial institutions in order to establish more environmentally friendly transportation models and infrastructures, to develop public transportation and to use green vehicles more effectively. It is estimated that, thanks to the increase in the production of low-emission vehicles, new employment areas will be created for approximately 3.8 million people (UNEP, 2009: 7). This increase in employment will increase even more with the help of stimulating the secondary sectors. In the field of sustainable energy, especially developed countries should be supportive in contribution to the financing of ongoing clean energy projects. Developing country economies, on the other hand, should implement practices towards the widespread use of small-scale and off-grid energy systems. In the fields of sustainable agriculture and supply in clean drinking water governments also have important duties in creating added value, preventing water losses used in traditional irrigation, and improving water capacity and quality. The agriculture sector has continued to be the largest sector worldwide with billions of workers. At the same time, agricultural sector contains the poorest majority lives within itself. In the agricultural sector, sustainability is closely related to water supply. On the other hand, the supply of clean drinking water worldwide is under serious threat. According to a report prepared by the OECD, 40% of the world population will face the problem of finding clean drinking water in 2050 (OECD, 2012). In the report published by the International Labour Organization (ILO) in 2012, it is stated in many studies that new employment areas will emerge for 15-60 million people globally with the transition to green economy in all sectors. It is also stated that especially developing countries' economies have great advantages in the emergence of green jobs. According to many reports, an international investment of 30 billion dollars each year for the purpose of preventing deforestation will lead to 8 million people finding full-time jobs in developing countries (ILO, 2012: 7).



#### 9. Analysis of access to finance for green entrepreneurs

Access to financial resources of entrepreneurs in Turkey usually occurs through two channels, including free market and public sources. In terms of the open market, the banking system is the most important financial resource provider. Apart from the banking system, private enterprise capital firms can also be considered as an important financial resource provider for entrepreneurs. Some of the public aids provided by public resources are in the form of operational support (support for the activities of entrepreneurs and SMEs), while the other part is capital support (loan guarantee, loan interest support, etc.). On the other hand, there are also incentives (tax, social security premium, etc.) provided by different ministries to businesses and investors. Also; the institutions in public, İŞGEM and TEKMER type structures provides indirect support to entrepreneurs with its cash/in-kind contributions to the organization and business. Therefore, direct and indirect financial support provided to entrepreneurs and SMEs through public resources varies greatly (Ministry of Development, 2014: 32). Loan interest support provided by KOSGEB among public-funded supports, Techno-entrepreneurship Capital Support provided by the Ministry of Science, Industry and Technology to support new and innovative initiatives, capital supports in the form of New Entrepreneur Support by KOSGEB and the Ministry of Science, Industry and Technology, Ministry of Economy, TÜBİTAK, KOSGEB, TTGV, Development Agencies etc. institutions located supports activities granted by (Ministry of Development, 2014: 32-35). Banks in Turkey, as in most countries, is the most important source of financing for SMEs. Since small enterprises have more problems in accessing bank loans compared to large enterprises, various support programs are implemented by the public to increase the access of these enterprises to credit. These supports can be in different forms such as conducting credit programs with favourable conditions (such as low interest, long term) in line with policy priorities, creating loan guarantee systems and micro-credit systems.

In recent years, developed countries have preferred policies that are less intrusive to the market, such as developing credit guarantee systems, making improvements in macroeconomic and financial systems (Yüksel, 2011: 2). Depending on the scale of SMEs and the business environment they are in, the nature and extent of the difficulties SMEs experience in accessing bank loans also differ. While small and young businesses generally have problems in accessing loans and cost of loans under all circumstances; Medium-sized enterprises may experience difficulties in terms of insufficient credit volume and unsuitable conditions in developed countries, and access to credit in developing economies. This situation, generally due to the underdeveloped financial system in developing countries is because of lack of liquidity and the inexperience and unwillingness of banks to lend to small-scale enterprises. Although there has been a development towards specialization in the banking system in SME loans in recent years, the situation is still far from the point it should have been.

In Europe, activities related to enterprise capital gained momentum especially after 1980. In various studies, it is stated that the enterprise capital investments in Europe have gained momentum positively with the regulations and joint programs of the European Union member countries. In the study conducted by the European Central Bank based on the years 2007-2012, it was shown that enterprise capital investments were in a decreasing trend after 2008. Although there are various reasons for this, it is stated that the biggest reason is the economic crisis in the United States, which started in 2007, spread to international markets in 2008 and increased its impact size after 2009. In 2013, the total amount of entrepreneurship fund investment in Europe increased by 5% compared to 2012 and reached 3.4 billion Euros. In the same year, more than 3,000 companies were provided with entrepreneurship fund support.

#### 10. Green Entrepreneurship Culture in the Regional Area

Environmental issues are becoming more and more important. Because the environment is constantly damaged and economic activities are at the root of many environmental problems. Environmental pollution endangers the future of people. Green entrepreneurship is one of the factors that will contribute to stopping environmental pollution. Green entrepreneurship has the potential to be a catalyst for positive change in both economic and environmental fields. Green entrepreneurs see the environmental dimension as an opportunity rather than a barrier, and they offer different types of jobs that are beneficial to the environment, socially responsible,



economically satisfactory. In short, green entrepreneurs are looking for better ways to have a cleaner and greener world. There is still a lot to learn about green entrepreneurship, and the main goal of this study is to give definitions of green entrepreneurship and at the same time try to reveal what barriers are and their importance for the economy and society.

Environmental challenges faced today can be turned into economic opportunities by green entrepreneurs. For example, green entrepreneurs can be a bridge between increasing economic demands and environmental services by producing eco-innovative products and services such as new products made from recycled waste or services in the field of environmental technology (such as renewable energy).

Activities of green entrepreneurs include activities such as eco-tourism, recycling, energy efficiency, sustainable mobility, organic agriculture, renewable energy, and green entrepreneurs contribute to the increase in the number of green jobs linked to these activities.

Green entrepreneurship requires innovation and entrepreneurship together. Green entrepreneurship is important because of eco-innovations. Because eco-innovations will be the future competitive advantage of companies and countries. If companies and countries want to be successful in the international market in the future, new and innovative environmental technologies, services and processes will be a much more important source of competitive advantage than low cost (McEwen, 2013: 270).

#### Sources:

International Journal of Economics and Innovation <u>https://www.siviltoplum.gov.tr/</u> <u>https://mersin.meb.gov.tr/</u> Yalova Journal of Social Sciences





# "Green Thinking Entrepreneur Youth"

2019-3-TR01-KA205-080177 Intellectual Output 1

# **Environmental-climate sensitivity analysis report**

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