

RESEARCH ON

Green

Entrepreneurship



PROJECT

**ALLIANCE FOR GREEN
ENTREPRENEURSHIP**

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More information is available at www.ageplatform.info



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Table of Contents

INTRODUCTION	5
DESK RESEARCH: Legislation, Methodologies and Good Practices	7
Green Entrepreneurship in the EUROPEAN UNION	8
Green Entrepreneurship in BULGARIA	11
Training on green entrepreneurship education	15
Methodology in green entrepreneurship training	16
Good practice examples for green enterprises	18
Good practice examples for educational resources	19
Green Entrepreneurship in the NETHERLANDS	21
Training on green entrepreneurship education	25
Methodology in green entrepreneurship training	29
Good practice examples for green enterprises	30
Good practice examples for educational resources	32
Green Entrepreneurship in DENMARK	37
Training and Methodology on green entrepreneurship education	40
Good practice examples for green enterprises	41
Green Entrepreneurship in GREECE	45
Training on green entrepreneurship education	49
Methodology in green entrepreneurship training	51
Good practice examples for green enterprises	53
Good practice examples for educational resources	54
Green Entrepreneurship in ROMANIA	55
Training on green entrepreneurship education	56
Methodology in green entrepreneurship training	57
Good practice examples for green enterprises	57
Green Entrepreneurship in POLAND	63
Training and Methodology on green entrepreneurship education	67
Good practice examples for green enterprises	70
Good practice examples for educational resources	73
FIELD RESEARCH	77
Methodology	78
Learners' questionnaire	79
Summary	83
Educators' questionnaire	83

Summary	86
Professionals' questionnaire	87
Summary	89
Conclusion	90
References	91

INTRODUCTION

The research is part of project **Alliance for Green Entrepreneurship (2021-1-BG01-KA220-ADU-000035300)**, and its aim is to identify the state of art and procedures available for circular economy and tools supporting of green entrepreneurship, implementation of innovative solutions in community and creation of green enterprises.

The research gathered information in terms of the legislation for creation of green start ups relevant for circular economy in the partner countries. The survey focuses on the support needed for initiating such businesses, the development of social innovation and the conditions necessary for strengthening sustainable eco education in each country.

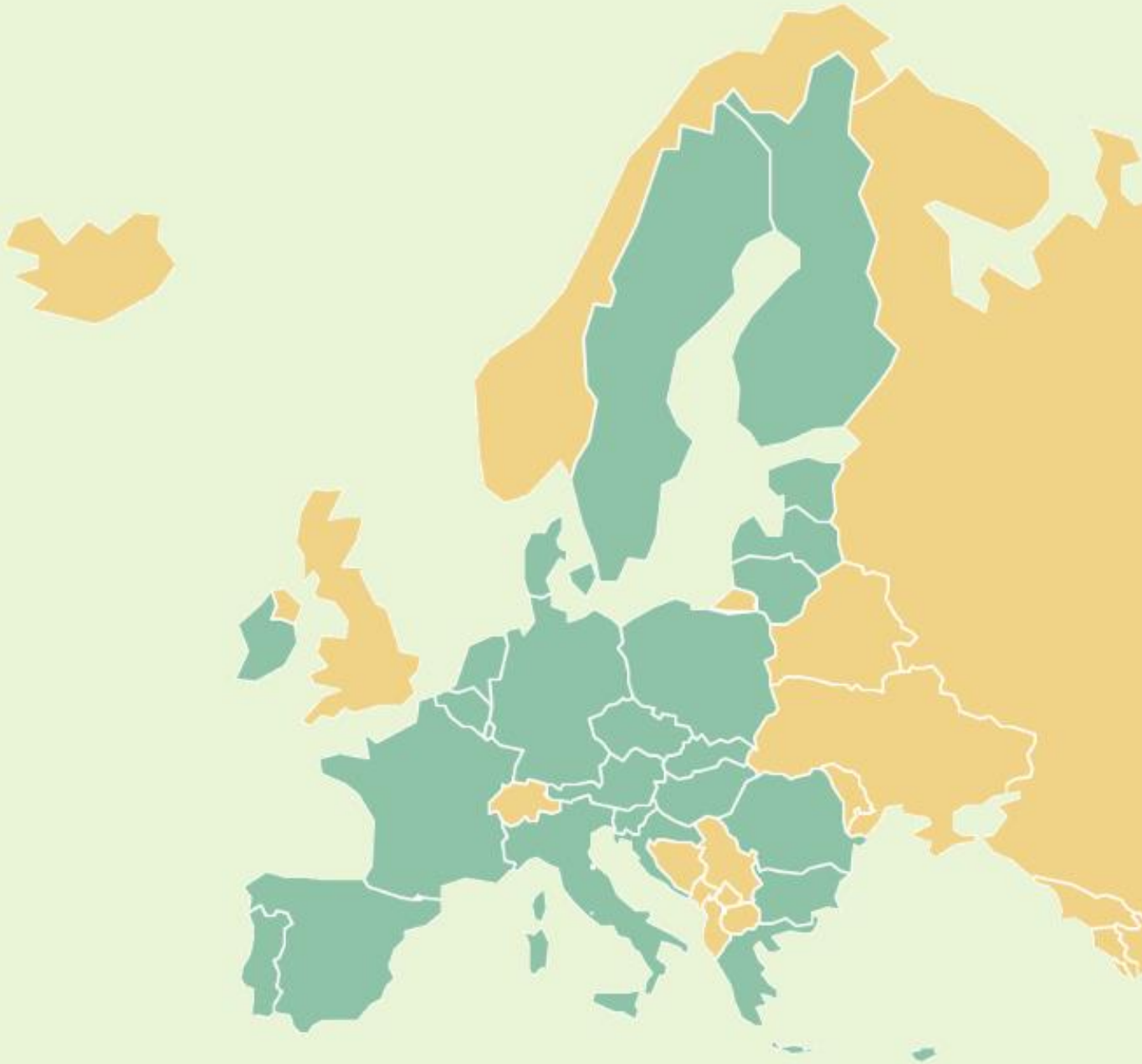
The research was performed in each partner country and consisted of 2 phases (desk and field research). It started from collecting data from the official state documentation and then it addressed various target groups and relevant stakeholders such as public bodies, educational institutions and eco and green actors, business representatives from the target field, as well other interested parties mainly involved in the green economy and the 3rd sector.

The desk research is composed of literature and documentation review related to the subject. It identified the state of art and procedures available for integrating the green economy sector and defined the already existing tools for effective initiation and creation of sustainable and eco start ups, the implementation of innovative eco-friendly solutions for education relevant for community development too.

The second phase of the research incorporated field research through questionnaire among the various stakeholders. The field research aimed at gathering relevant information on how sustainable entrepreneurship is implemented in each of the partner countries and what is needed in order to foster such educational activities. The results demonstrate what is necessary to be addressed as topics and how involvement of target groups in such learning paths is crucial in order to stimulate their interest in environmental and green topics. Results from each country were carefully analysed and dressed in categories such as existing policies related to the topic, institutional/legal frameworks, etc.

The benefits of creating such an output come out of the fact that since the legislation and existing tools are well assessed and analysed, then tailor-made learning solutions for enhancing green and eco entrepreneurship and education will be easily produced as part of the other project results and it will better respond to the growing demand of such type of knowledge also at EU level.

DESK RESEARCH: Legislation, Methodologies and Good Practices



Green Entrepreneurship in the EUROPEAN UNION

The European Union is stimulating sustainable entrepreneurship. EU funding is available to facilitate and stimulate the public and private investments needed for the transition to a climate-neutral, green, competitive and inclusive economy.

Climate change and environmental degradation are an existential threat to Europe and the world. To overcome these challenges, the EU started the European Green Deal which will transform the EU into a modern, resource-efficient and competitive economy, ensuring:

- no net emissions of greenhouse gases by 2050
- economic growth decoupled from resource use
- no person and no place left behind

The European Green Deal is also our lifeline out of the COVID-19 pandemic. One third of the 1.8 trillion euro investments from the NextGenerationEU Recovery Plan, and the EU's seven-year budget will finance the European Green Deal. The European Commission adopted a set of proposals to make the EU's climate, energy, transport and taxation policies fit for reducing net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels.¹

One of the indicators regarding the companies eco performance in Europe is the Eco-Innovation Index², which illustrates eco-innovation performance across the EU Member States. They aim at capturing the different aspects of eco-innovation by applying 16 indicators:

Eco-innovation inputs	Eco-innovation activities	Eco-innovation outputs	Resource efficiency outcomes	Socio-economic outcomes
1.1. Governments environmental and energy R&D appropriations and outlays (% of GDP)	2.1. Enterprises that introduced an innovation with environmental benefits obtained within the enterprise (% of total firms)	3.1. Eco-innovation related patents (per mln population)	4.1. Material productivity (GDP/Domestic Material Consumption)	5.1. Exports of products from eco-industries (% of total exports)
1.2. Total R&D personnel and researchers (% of total employment)	2.2. Enterprises that introduced an innovation with environmental benefits obtained by the end user (% of total firms)	3.2. Eco-innovation related academic publications (per mln population)	4.2. Water productivity (GDP/total fresh water abstraction)	5.2. Employment in eco-industries and circular economy (% of total employment across all companies)
1.3. Total value of green early stage investments (USD/capita)	2.3. ISO 14001 registered organisations (per mln population)	3.3. Eco-innovation related media coverage (per numbers of electronic media)	4.3. Energy productivity (GDP/gross inland energy consumption)	5.3. Revenue in eco-industries and circular economy (% of total revenue across all companies)
			4.4. GHG emissions intensity (CO2e/GDP)	

Source: https://green-business.ec.europa.eu/eco-innovation_en

The countries leading the statistic in eco-innovation are: Luxembourg, Finland, Austria, Denmark, Sweden and Germany.

¹ https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

² https://green-business.ec.europa.eu/eco-innovation_en

The countries from the project represent different groups in the index from the very well developed to the not so well performing, which is a great way to learn from best practices and exchange experience.

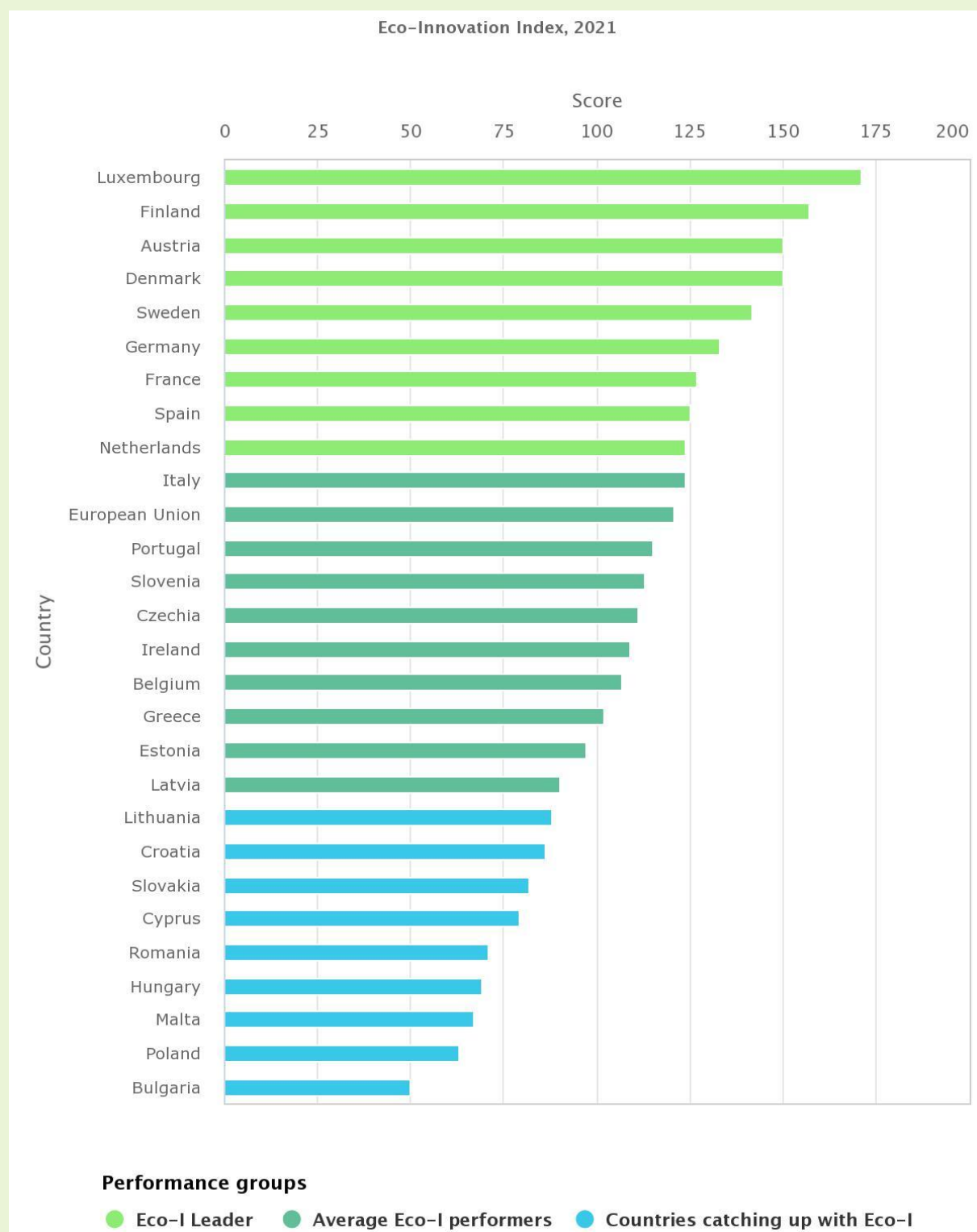
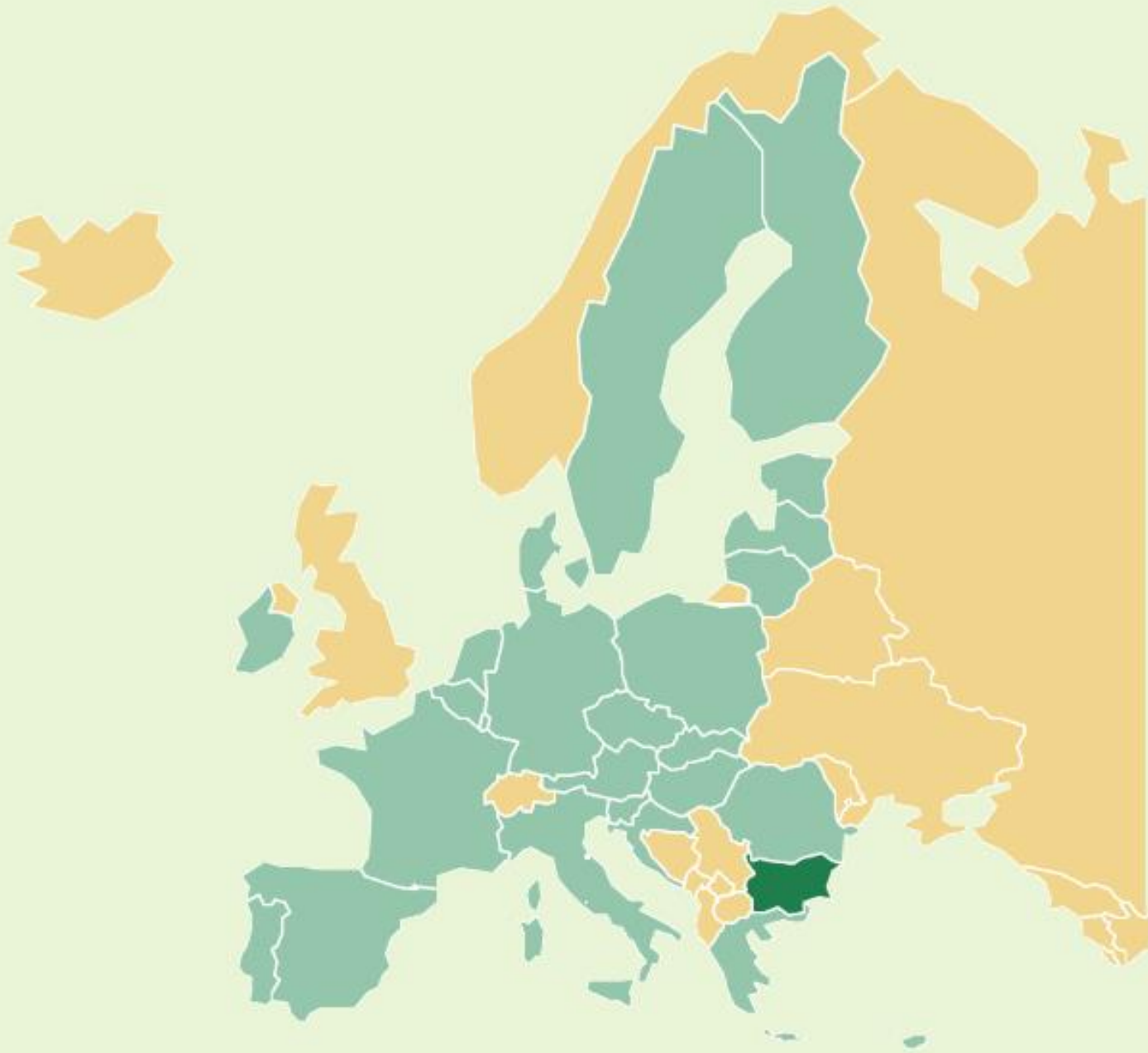


Figure 1 ECO-Innovation Index, 2021, Source:
https://ec.europa.eu/environment/ecoap/indicators/index_en



Green Entrepreneurship in BULGARIA

The predominant mindset is such that expenses on the environment as a whole or the green credentials of products (imposed by legislation) are perceived as costs. It takes a long time, targeted efforts and a lot of interventions to change this.

The unsatisfactory results of the Eco-IS are also due to the fact that there are different systems which are behind the national eco-innovation performance: the research and innovation system; the economic system and the energy system. All of these are governed by different ministries whose goals are not necessarily aligned in practice. Additionally, while it is possible to adopt

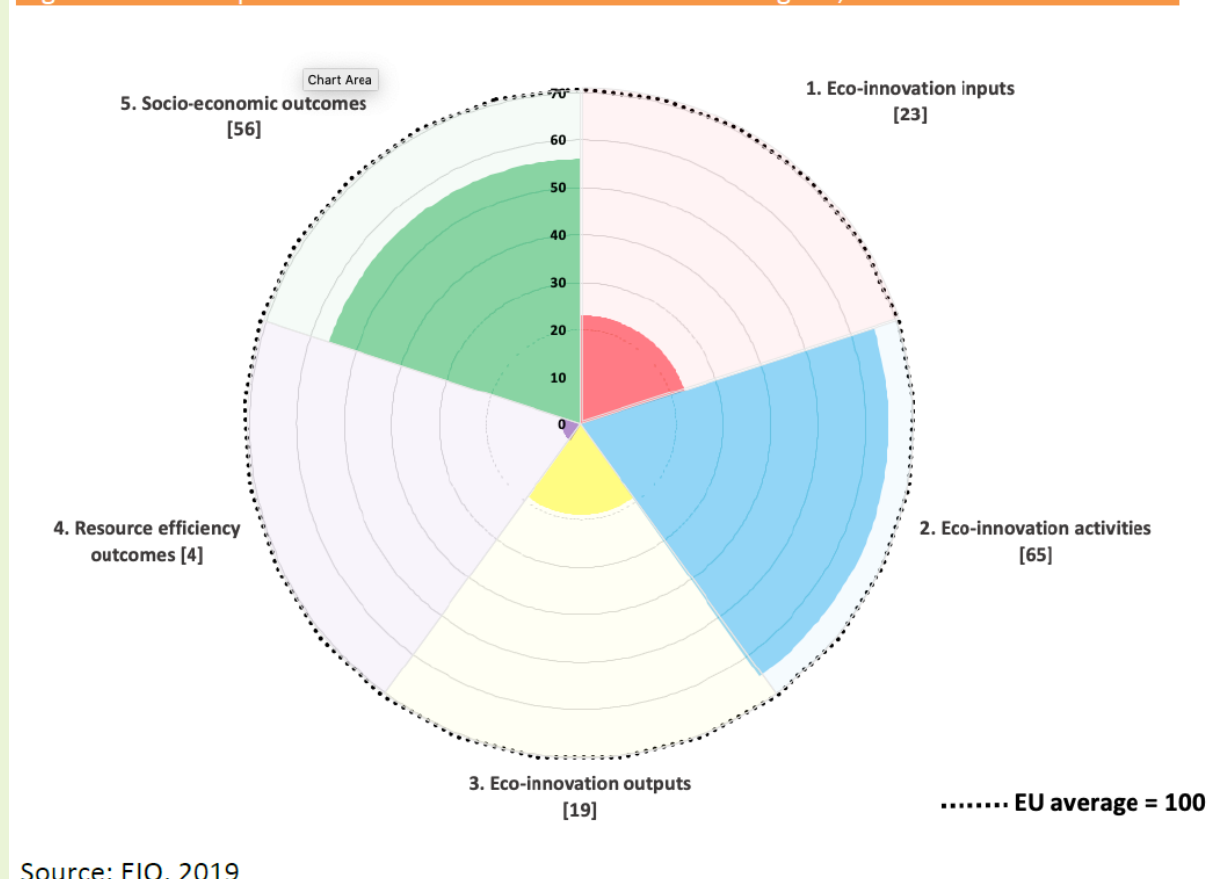
measures and impact some of the indicators in the short-term, the impacts of measures on other indicators would only become visible in the mid- or long term if at all.

Bulgarian SMEs have not fully embarked on the transition to the circular economy. Waste management within SMEs has a huge margin for improvement and new circular business models (e.g. industrial symbiosis, sharing economy, etc.) and actions high on the waste hierarchy are scarce.

The analysis is based on the EU Eco-innovation Index (EcoI Index) for the year 2021. The Eco-innovation index demonstrates the eco-innovation performance of a country compared with the EU average and with the EU top performers. Eco Index is a composite index that is based on 16 indicators which are aggregated into five components: eco-innovation inputs, eco-innovation activities and eco-innovation outputs as well as environmental outcomes and socio-economic outcomes. (Figure 1)

The analysis of the composite Eco-innovation index shows that Bulgaria scores low on component one (Eco-innovation inputs) which could be partly explained with the relatively low GDP of the country and disbalances within the research system. Bulgaria remains the most energy-intensive economy in the EU by a wide margin.

Figure 2 Five components of the Eco-innovation index for Bulgaria, 2019



Government Programme

The programme of the current Bulgarian government includes the objective of 'achieving resource efficiency by applying the waste management hierarchy, waste prevention, promotion of reuse and recovery by recycling to reduce disposal and adverse impacts on the environment and human health'. The following measures are also included: further development of the waste pre-treatment infrastructure for recovery in 17 regions; completing systems for separate collection of biowaste; completion of composting and anaerobic digestion facilities to ensure a high level of environmental protection and the use of environmentally safe materials produced from biowaste; developing a National Strategy in relation to the EU Circular Economy Package.

National strategy for development of scientific research in Bulgaria 2017 – 2030: Better Science for a Better Bulgaria

In October 2016, Bulgaria adopted the strategy 'Better Science for a Better Bulgaria – Vision for a research policy strategy in support of society and economy'. The following priority research areas are of relevance to eco-innovation: mechatronics, clean technology and new energy and energy efficient technologies; health and quality of life, green and ecotechnologies, biotechnologies, eco-foods, purification and waste technologies; environmental protection; utilisation of raw materials and bio-resources; environmental monitoring; materials and nanotechnology; and ICT.

National Digital Bulgaria 2025: programme and roadmap

The programme builds upon the Digital Bulgaria 2015 and aims to introduce digital solutions in different sectors of the economy: for citizens and businesses. It addresses issues such as building the common digital market; improvement of compatibility and standards; enhancing security; improving access to broadband internet; stimulating computer literacy; etc. The Ministry of Transport, ICT and Communication coordinates the implementation of the programme. Other relevant strategic document in the sector include: National Reform Programme 2020; National Strategy for the Development of Broadband Internet 2012-2020; Strategy for the Development of E-government 2014-2020; National Cyber Security Strategy Bulgaria 2020.

In addition to the programme, Bulgaria has adopted a Digital Roadmap 2025. The roadmap comprises of five priorities: better access to digital networks and services; development of dynamic and innovative digital economy; improvement of digital competencies and skills; quality electronic services to business, citizens and e-government; cyber security.

National Energy and Climate Plan (2021-2030)

Adopted in February 2020 the Plan spells out a number of energy sector priorities including the increase of the energy efficiency through new technologies; and renewable energy development and use.

National Climate Change Adaptation Plan until 2030

The plan is relevant to eco-innovation as it describes the impacts on different sectors of the economy and efforts that need to be made to adapt to climate change. Relevant sectors include energy, forests, transport, tourism, urban environment, health and waters. The process of adaptation would require significant innovation capacity. Main goals of the strategy include integration of adaptation to climate change; capacity building of institutions; awareness raising; and building resilience to climate change.

National Air Pollution Control Programme (2020-2030)

It was adopted in 2019 in line with Directive EC/2016/2284. Among others, the programme foresees air quality improvement measures.

To meet the demand for energy efficiency, the Energy Efficiency and Renewable Sources Fund provides loans to Bulgarian companies, municipalities and private individuals. In addition, the Bulgarian Development Bank also offers a leasing line (an on-lending programme) for the purchasing of machinery and equipment for SMEs.

Green products and services and environmental management

The proportion of SMEs that have benefited from public support measures for their production of green products increased by 9% over 2014-2018. Nevertheless, the proportion of SMEs that offer green products or services is among the lowest in the EU.⁸ In March 2020, there were only nine products in Bulgaria with the EU ecolabel. For comparison, Slovenia had 72 products.

The good thing is that in Bulgaria there is a serious movement of the green startup ecosystem. There are a number of good ideas that, with a little expert push, could become circular products and/or services. The start-ups demonstrate CE business models in areas like product as a service, renewability and shared platforms. Innovative product design and packaging offer tremendous opportunities to shift from a linear economy to a circular economy.

Training on green entrepreneurship education

In the last years there are various organisations that have started promoting and offering courses on green entrepreneurship such as universities, non-governmental organizations and training centers. Some of them are free or they are part of a university degree, so they are paid or online.

There are also possibilities for training focused on high school students. Such is the "Green Entrepreneurship for Sustainable Development" project that Junior Achievement Bulgaria developed in partnership with Young Enterprise Sogn og Fjordane, Norway, to give students in high schools the opportunity to learn more about how business can be sustainable, as well as to try out in practice to start a green business.

It consists of a 12 week online course in green business, which will run in the form of a series of short video lectures, combined with additional reading materials from websites and other sources, quizzes and essay questions. The participating students are encouraged to work in teams on various tasks, as well as to discuss and post comments on the videos they have watched. The goal is to present the concepts in the most interactive way possible and to encourage students to share their viewpoints and learn from each other. Several carefully selected guest lecturers complement the theoretical material bringing in their own practical experience.

The major topics discussed during the course include: definition of sustainable development, what does planetary boundaries mean, the role of business in sustainability, can every business be green, what is greenwashing, circular economy, blue economy, Cradle2Cradle design, great green business ideas from around the world, corporate social responsibility, the triple bottom line, social entrepreneurship and social innovation. During the length of the whole course, students work on and constantly develop their own idea for a green business and present it in the end as their final assignment.

The development of the GreenComp: the European sustainability competence framework³ is going to facilitate the training process, as it is going to be a reference framework for sustainability competences. It provides a common ground to learners and guidance to educators, advancing a consensual definition of what sustainability as a competence entails.

The GreenComp Framework includes four interrelated areas of competence: "embodying values of sustainability", "overcoming the complexity of sustainability", "predicting a sustainable future" and "sustainability action". Each area consists of three competencies that are interrelated and equally important:

³ <https://publications.jrc.ec.europa.eu/repository/handle/JRC128040>

Embodiment of sustainability values, including competencies for:

- sustainability assessment
- support for justice
- improving nature

Perception of complexity in the concept of sustainability, including competencies for:

- systematic thinking
- critical thinking
- problem formation

Forecasting a sustainable future, including competencies for:

- literacy
- adaptability
- research thinking

Sustainability actions, including competencies for:

- political assistance
- collective action
- individual initiative

Methodology in green entrepreneurship training

Together with the different types of training and target groups for all of them the methodology applied differs.

Online trainings

These trainings take place on different platforms and the methodology used in them is allowing anyone interested in learning more on the topic of green entrepreneurship and circular economy to enroll in the course. The courses are prepared by professionals in the field and are normally divided between 5 and 8 topics. The main two topics that are discussed are information on green entrepreneurship and how to develop your own green enterprise.

The courses contain a module for introduction to green entrepreneurship, presenting the basic aim and idea behind the circular economy and entrepreneurship concept. Then, they continue with part dedicated to the legislative framework used in the country and afterwards business models and business management, dedicated to providing guidance on how the business should be structured and gave the chance to acquire knowledge about different business models that can be used.

This type of trainings tries to attract people with new and user-friendly platforms, which give them a chance to interact with other participants through feedback, reviews, sharing ideas etc. Most of the platforms are free to register and use, which is giving them advantage compared to the life trainings. Another advantage is the possibility to watch or read the materials online anything from everywhere.

Live trainings

This type of trainings take place in a specific place and are limited to number of participants who can take part. Prior to join such training the applicant might need to fill in a form, write a motivational letter or other documents showing real interest in the program. A limited number of candidates are selected to participate in the training and this life interaction during the course is giving chance for networking and interacting with people face-to-face, thus creating closer connections and possibility for future collaborations. These types of trainings vary in the duration, from 3-4 days to 2-3 months depending on the intensity of the course.

The main topics discussed do not differ much from the topics covered in the online training. There is introduction part for the green enterprises and how a business model is structured. Most of the trainings analyze practical examples working examples, which gives them a better insight, being able to learn about the difficulties that they might encounter. The second part of the training is the development of the participants own idea or business plan. They might work in teams to create a strategy plan for the development of a green enterprise, its products, or services. Depending on the course, there might be mentors for every enterprise, that could help with guidance and advise. Important topics which are discussed are the green enterprise marketing and finances, as they are crucial for the success of the newly founded enterprises.

Hands-on trainings

For the high school students there was a Junior Achievement Bulgaria project which organized an Eco Camp, as continuation for the online training courses on green entrepreneurship. In the mountainous located camp in Bulgaria, 24 of the best performing students from Bulgaria and the 16 best performing students from Norway got invited to take part in, based on their active contribution and engagement in the online video course. The idea of the Eco Camp is practical application of everything the students have learned during the online course. One-week duration filled with team-building activities, tree-planting, visits to bio factories and other green businesses, multicultural games and experiences, and an innovation camp. The innovation camp challenge the students to work in international teams and come up with a green business idea to solve a particular problem. The top three teams receive continued support from Junior Achievement's team with

access to mentors and funding mechanisms if they wish to further develop their winning idea as a functioning business.

This opportunity gives students a hands-on experience and more motivation for finalizing their online training course and take part in a live Eco camp where they can apply their newly gained experience and knowledge

Good practice examples for green enterprises

Name: Ecologica⁴

Target group: everyone who uses electrical and electronic equipment

Description: The company recycles electrical and electronic equipment. It serves households, small and large administrations and manufacturing companies across the country. Ecologica develops innovative "Old for New" programs for significant sales growth. The company supports its clients to comply with the EU WEEE Directive.

Name: Biomyc: Bio-based sustainable packaging⁵

Target group: companies using packaging for goods

Description: Biomyc (created in 2017) revolutionizes the packaging industry by developing innovative packaging solutions from sustainable feedstocks. By combining cutting edge technologies, eco design and production management they ensure a unique packaging solution with a perfect product-market fit that is safe for the environment.

All products are created from sustainable feedstocks. Fully biodegradable materials provide thermal insulation and impact protection to products. The mission of the company is to bring sustainable innovation to market and enable circular business models.

Name: Qubico, monitoring of water and sewer networks for saving water⁶

Target group: companies and construction firms

Description: Qubico is a Bulgaria-based engineering company that provides comprehensive solutions for monitoring of water and sewer networks. The simple philosophy of the company is that the higher the number of monitoring points the better the understanding of network operators. To achieve this Qubico has developed QDATA – a data-capture, visualization and analytics platform that is typically facilitated by deploying its own data loggers. Equally important, QDATA seamlessly

⁴ <https://ecologica.bg/>

⁵ <https://biomyc.eu/>

⁶ <https://qubico.com/en/q-scada-analytics/>

integrates data from water meters, pressure and level sensors and other devices that water utilities inevitably already have on the ground.

In essence, Qubiqo provides a bridge between physical and digital infrastructure to facilitate utilities' understanding of network performance. Market-wise, the company is focused on Eastern Europe with numerous projects and utility partnerships in Bulgaria, North Macedonia, Kosovo and other countries.

Qubiqo's toolbox is a prerequisite for efficient network operations, Non-Revenue Water reduction but also investment planning and improved customer service.

Name: LAM-ON⁷

Target group: companies

Description: LAM-ON is a Bulgarian start-up producing a 100% biodegradable laminating film for print and packaging. It is derived from renewable resources like corn. The glue layer developed specifically for the needs of the industry is completely toxic-free. It is also water soluble in order to ease the recycling process. LAM'ON offers the same results, is used on the same machines, and is offered at the same price range as the currently used

Good practice examples for educational resources

Name: GIRLS GO CIRCULAR: Digital and Entrepreneurial Skills for the Circular Economy⁸

Description: The online learning platform developed in the framework of the project – the "Circular Learning Space" – offers students the option of choosing between different learning modules on topics like e-waste, climate change, food, or robotics. These modules are based on a learning-by-doing approach, transferring knowledge and skills through an interactive, challenge-based structure.

Name: Institute for Circular Economy⁹

Description: Institute for Circular Economy (ICE) is a Bulgarian NGO active at the intersection of circular economy, biomimicry and regenerative development. They provide consulting service,

⁷ <http://lam-on.com/>

⁸ <https://eit-girlsgocircular.eu/>

⁹ <https://iki.bg/en/>

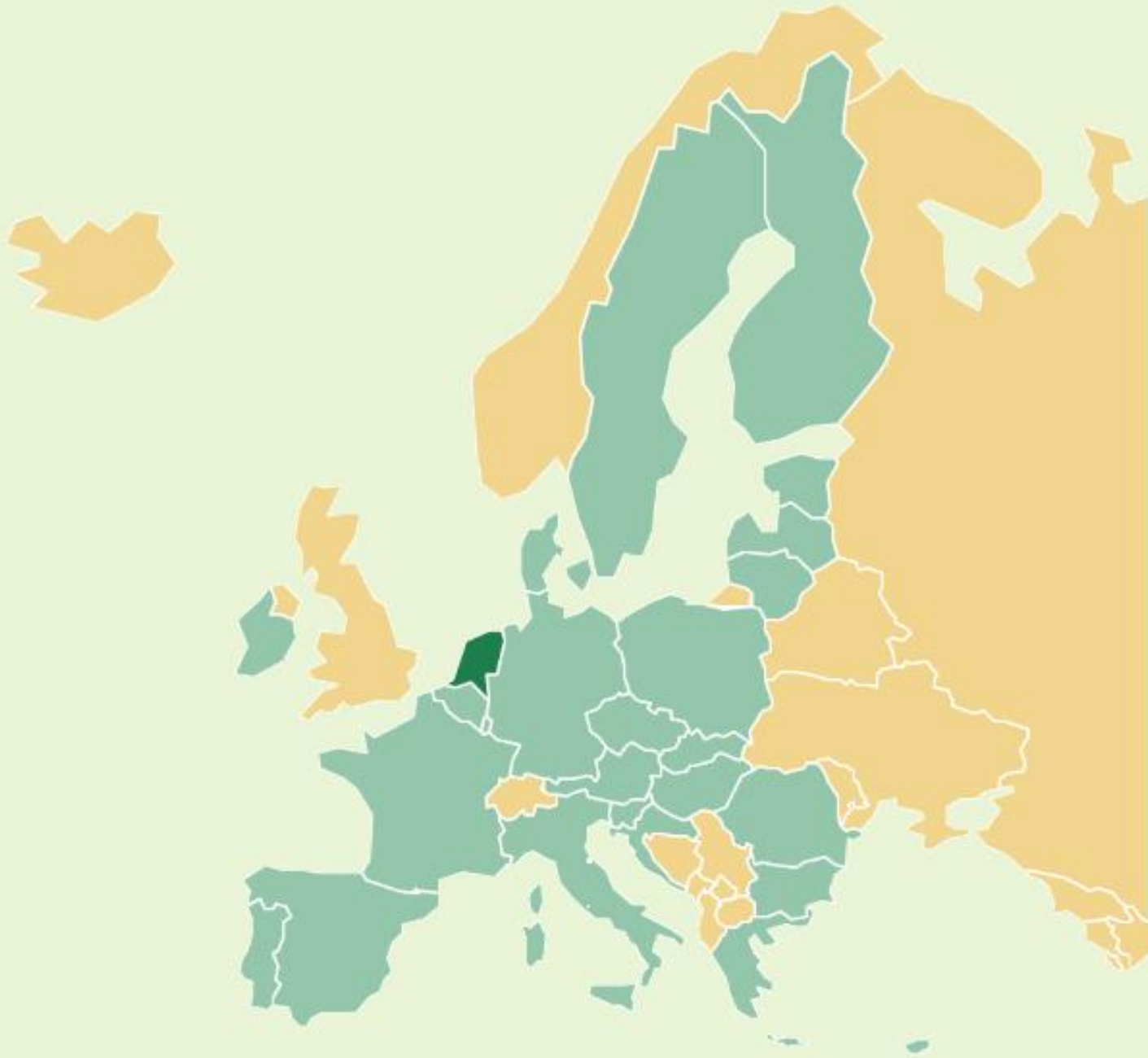
design excellence and innovation to create products and business models that enrich people's lives and help our partners succeed.

Name: Junior Achievement Bulgaria GREENT training course¹⁰

Description: A training course on green entrepreneurship, developed within the GREENT project of Junior Achievement Bulgaria. GREENT's philosophy suggests a blended learning approach to the presentation of green entrepreneurship content in high schools - ie. a combination of face-to-face training in the classroom and training using the capabilities of modern online technologies. The GREENT curriculum is a flexible tool that allows teachers to experiment and integrate parts of it into different subjects (such as biology, chemistry, geography, physics, philosophy, foreign languages, etc.) or to apply it as a stand-alone course (for example as an extracurricular activity), which would provide students with a thorough understanding of the values and principles of green entrepreneurship and its application in practice. Green entrepreneurship is the conscious solution of an environmental / social problem or need through the implementation of high-risk entrepreneurial ideas that ultimately have a positive impact on the environment and at the same time are financially sustainable.

The course has duration of 36 h.

¹⁰ https://www.jabulgaria.org/article/programs/zeleno_predpriemachestvo_greent



Green Entrepreneurship in the NETHERLANDS

Green entrepreneurship is also defined in The Netherlands as 'MVO' (MVO stands for 'Sustainable or Corporate Social Responsibility (CSR). MVO or CSR are often used synonymously in the Netherlands for Green Entrepreneurship. This is doing business in such a way, which has the main focus for the environment, social-ethical and profit is balanced and attuned to the expectations of the stakeholders (stakeholders) of the company.

The Dutch government encourages corporate social responsibility. The national government helps companies that need help with corporate social responsibility (CSR). This means that they take into account the effects of their business operations on people, the environment and society¹¹.

Dutch Green Legislation

Supporting Green Economy Growth

The Netherlands was the first country to apply the OECD set of green growth indicators proposed in Towards Green Growth: Monitoring Progress – OECD Indicators¹². Using this framework will help the government analyse and improve the implementation of green growth policies¹³.

The Netherlands has improved from 14th position in 2017 to 9th position in 2019 on the Eco-Innovation Index, surpassing France, Ireland, UK, Portugal and Spain. It has as such increased its score to 110 and places itself above the EU average. Comparatively with former reports, the Netherlands has greatly improved several of the indicators in the 2019 five-component index. They scored above EU average in 2017 on resource efficiency outcomes, which in 2019 have been followed by above EU averages scores in eco-innovation input and outputs. Furthermore, the score on eco-innovation activities has greatly improved, although still slightly below European average. The score on socio-economic outcomes remains at the same relative level, just below European average¹⁴.

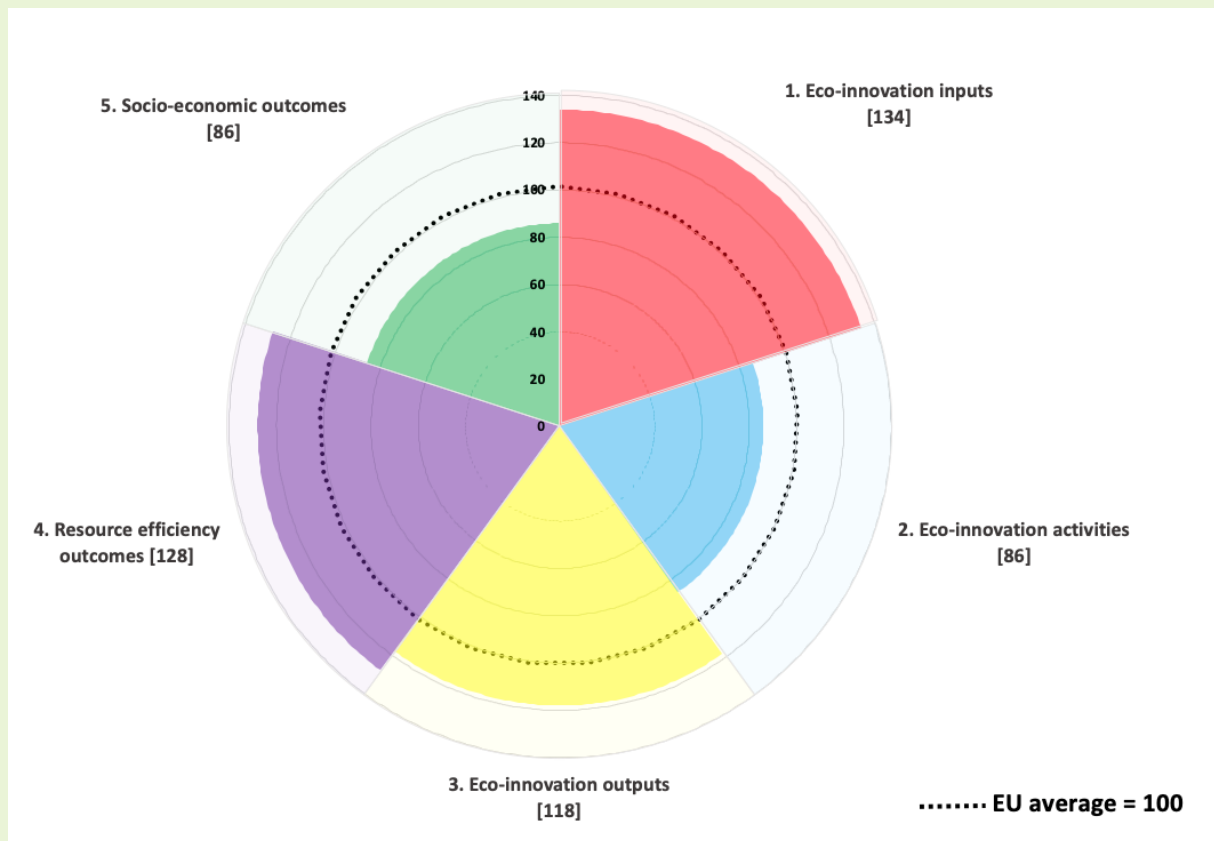
The improved score seems in line with the revived political attention for sustainability that was achieved after a number of court cases where the Dutch government was convicted for not reaching their targets. Although the EU targets and treaty obligations are not yet met in the climate and biodiversity field, the court rulings and increased political attention has spurred action: in the energy field with tailored sectoral and regional plans and with attention for hydrogen; in the biodiversity field, the nitrogen problem led to a building stop, a reduction in maximum speed on the motorways and a lot of ongoing discussions about agriculture. Circular economy is considered an important topic, but many barriers persist. Negative environmental effects in product pricing, lack of market demand and limited government funding, as well as too little attention for more innovative approaches higher in the value chain remain the current challenges. The Dutch score on socio-economic outcomes remains at the same relative level, just below European average (figure below):

¹¹ <https://www.rijksoverheid.nl/onderwerpen/duurzame-economie/maatschappelijk-verantwoord-ondernemen>

¹² <https://www.oecd.org/greengrowth/towardsgreengrowthmonitoringprogress-oecdindicators.htm>

¹³ <https://www.oecd.org/greengrowth/greengrowthinactionthenetherlands.htm>

¹⁴ https://ec.europa.eu/environment/ecoap/netherlands_en



The Dutch Government supports green economy growth. The national government opts for sustainable economic growth. This is also known as 'green growth'. Economic growth does not come at the expense of the environment. Further the Dutch national government encourages corporate social responsibility¹⁵: The national government helps companies that need help with corporate social responsibility (CSR). This means that they take into account the effects of their business operations on people, the environment and society.

Green Deal approach

Companies, social organizations or other governments sometimes run into problems if they want to take a sustainable step. The national government can help solve the bottlenecks by entering into a Green Deal with them.

Agreements with central government on sustainability

Green Deals are agreements between the national government and other parties. The other parties are companies, social organizations and other governments. The Green Deal helps to implement sustainable plans. For example for energy, climate, water, raw materials, biodiversity, mobility, biobased economy, construction and food.

¹⁵ <https://www.rijksoverheid.nl/onderwerpen/duurzame-economie/maatschappelijk-verantwoord-ondernemen>

Role of Dutch National Government in Green Deals

In a Green Deal, the government tries to remove bottlenecks in sustainable plans. The government helps in several ways: Central government can make efforts to amend legislation and regulations. In this way, the government can, for example, reduce the administrative burden for companies. Sometimes the national government acts as a mediator. For example, to bring organizations together or to smooth negotiations. The national government can help companies to develop new markets for sustainable technology. For example, by helping companies to enter foreign markets ('green trade missions').

Dutch Government encourages companies to get started with CSR

More and more companies are seeing the necessity and benefits of CSR. They take into account the effects of their business operations on people, the environment and society. For example, by saving energy, separating waste or employing disabled people.

The national government encourages CSR in the following ways:

- De Transparency Benchmark¹⁶. Every year, the national government has 500 reports from companies on their CSR activities examined. The company that finishes highest on the Transparency Benchmark will receive a prize: The Crystal.
- The Dutch government encourages the development of sustainable products by purchasing sustainably itself. For example, many ministries only have organic products in company restaurants.
- The Dutch government has established MVO Nederland¹⁷. This is the national knowledge and network organization in the field of CSR. This is where companies that want to do business in a more sustainable way can go.

International Corporate Social Responsibility (IMVO)¹⁸

The national government also encourages companies that do business abroad to do so in a socially responsible manner. The central government has measures promoting ICSR for this.

¹⁶ <https://www.transparantiebenchmark.nl/>

¹⁷ <https://www.mvonederland.nl/>

¹⁸ <https://www.rijksoverheid.nl/onderwerpen/internationaal-maatschappelijk-verantwoord-ondernemen-imvo/bevorderen-internationaal-maatschappelijk-verantwoord-ondernemen>

Rutte IV cabinet: Green industrial policy

The new Dutch government (coalition came into place January 10th 2022) announce the introduction of legislation for corporate social responsibility in the Netherlands. This means that the government will no longer tolerate abuses in global corporate value chains, such as the violation of trade union rights, environmental pollution and child labour. Currently Minister De Bruijn has announced he is preparing for the introduction of a Dutch law for responsible and sustainable business. With the Corporate Responsibility Act, the Netherlands is taking a major step to protect human rights and the environment in global value chains. The cabinet shows leadership and thus contributes to the prevention of abuses in chains, such as deforestation, land grabbing and child labour¹⁹.

The cabinet wants to make agreements with the 10 to 20 largest emitters of greenhouse gases. The government also wants to invest in research and innovation of climate-neutral technologies. And help small and medium-sized enterprises (SMEs) to become more sustainable. The cabinet is further developing these plans in the coalition agreement 'Looking after each other, looking ahead to the future'²⁰.

Training on green entrepreneurship education

Sustainable development and corporate social responsibility in Dutch education is becoming increasingly important. As early as 1992, 'Agenda 21' called on education to play a role in this. The UN Decade of Education for Sustainable Development (DESD), which runs from 2005 to 2014, emphasizes this message even more. Since 1972, but especially since the late 1980s and early 1990s, declarations have been signed on the role that education should play in contributing to a sustainable society. These statements usually focus on the integration of sustainable development in the various roles that an educational institution takes on. For example, there is talk of the integration of sustainable development in education (curriculum), the need for interdisciplinary research in the field of sustainable development and the social responsibility that the institutions must take through their business operations.

Green entrepreneurship is in the DNA of green education. From the content point of view, this already concerns climate, biodiversity and food and better conditions for plants, animals and people. In 2020 the Dutch Wellantcollege was proudly at the top of the SustanaBul ranking.

¹⁹ <https://www.mvoplatform.nl/aankondiging-wet-voor-verantwoord-ondernemen-is-geweldig-nieuws-voor-mensen-milieu-wereldwijd/#:~:text=Met%20deze%20wetgeving%20zet%20Nederland,zoals%20ontbossing%2C%20landroof%20en%20kinderarbeid>

²⁰ https://ec.europa.eu/environment/ecoap/indicators/index_en

What about making education more sustainable? the commitment of schools to the environment, climate, biodiversity and the future in general? We outline the situation in two parts. Part 1 deals with VET (Dutch VMBO and MBO) and secondary education. Part 2 is about Higher Education.

Green Entrepreneurship in VET (V)MBO and Secondary Education

In recent years, many joint and individual initiatives have been taken in education for greater sustainability. Green MBO went 'Ahead of Greening' and Eco-schools²¹. were set up. Passionate teachers filled their lessons with explanations about the Sustainable Development Goals (the United Nations' development goals), the consequences of climate change, the introduction of circular agriculture or the importance of recycling and separating waste.

Many initiatives were aimed at teaching, school or, at most, an education sector. But Learning for Tomorrow (and Students for Tomorrow) wants to expand. "Ultimately, it's about getting it into the natural DNA of all education," says Hilda Weges, project manager for Sustainabul²² (in VET and Higher Education), part of Learning for Tomorrow:

- **Learning for Tomorrow²³**

Learning for Tomorrow was founded in 2017-2018 as a cooperative of education, support staff, entrepreneurs and government. Giuseppe van der Helm is director of the cooperative. He is also national coordinator for SDG 4, the UN target on the quality of education. Weges: "We hope that Learning for Tomorrow is not seen as something external, but that it comes from the schools themselves." Also check out the cooperative's YouTube channel: YouTube-kanaal van de coöperatie²⁴.

- **'De Sustainabul'**

The Sustainabul is a ranking of educational institutions on sustainability. The Learning for Tomorrow cooperative has been carrying out this since 2019 for MBO²⁵ and since 2021 for secondary education²⁶ (and therefore also for pre-vocational secondary education). Nine MBO schools took part in the first year, followed by twenty a year later. In the ranking and assessment, it concerns all parts of the whole school approach such as vision, curriculum, didactics, relationship with the environment, the building and operational management and professionalization. The

²¹ <https://eco-schools.nl/>

²² <https://sustainabul.com/>

²³ <https://lerenvoormorgen.org/>

²⁴ https://www.youtube.com/channel/UCO-cmsSdcDw_63nXkLxP_qA

²⁵ <https://mbo.sustainabul.com/>

²⁶ <https://vo.sustainabul.com/>

Sustainabul MBO 2021 will be presented on December 10, 2021. Read about the procedure there and how schools can participate at Sustainabul VO²⁷

- **Eco—schools**

Eco-schools is a program for schools where sustainability is given a permanent place in education, in the building and the environment. Students, in Eco teams, lead the sustainability tasks and carry out actions. Schools can earn the green flag and a United Nations-recognized quality mark for sustainable schools.

- **Learning for Sustainable Development (ESD)²⁸**

Learning for Sustainable Development with Stan Frijters, researcher and teacher at Aeres University of Applied Sciences, is mainly about a method of inquiry-based learning in sustainable education: how can you shape this as a teacher with pupils and students?

- **The Green Compass²⁹**

The Green Compass is an instrument to help education teams to achieve sustainable development in (V) MBO.

- **Whole School approach**

Arjen Wals, professor of Transformative learning for socio-ecological sustainability at Wageningen University & Research, has been thinking about sustainable education over duurzaam onderwijs for years. He has developed the whole school approach that now serves as the basis for the ranking at Sustainabul MBO. The Whole School Approach supports schools to embed the principles of Education for Sustainable Development (ESD) for 2030 in a fundamental way

- **Green Education Impact Prize**

Sustainable projects and start-ups can participate in the Green Education Impact Prize³⁰, which Groenpact organizes every year.

Green Entrepreneurship Education in Higher Education

As in Dutch VET, there are major differences between the educational institutions in terms of sustainability when it comes to sustainability. Tomorrow is and what they do to ensure that

²⁷ <https://vo.sustainabul.com/>

²⁸ <https://lerenvoormorgen.org/>

²⁹ <https://hetgroenekompass.nl/>

³⁰ <https://www.groenpact.nl/evenementen/impactprijs-groen-onderwijs>

sustainability becomes the norm in higher education. Like the Sustainability ranking. "No institution wants to be at the bottom of that ranking,"

In 2000, the Dutch foundation for Sustainable Higher Education (DHO) developed the AISHE method (Audit Instrument for Sustainability in Higher Education). The method can be used to assess how far an educational institution is in the process of introducing sustainable development into their education and organization; in developing policy in that area; and in increasing enthusiasm and support for it among management, staff and students. If the institution has this audit performed by DHO, then it is possible to obtain a DHO Quality Mark. A DHO Quality Mark can be obtained at different levels, since stars are awarded. The highest possible number of stars to be awarded is four.

Dutch WO (Science Education) and HBO (Higher Professional Education) programs that carry out an AISHE audit at the same time as a self-evaluation for the purpose of accreditation and obtain the DHO Quality Mark at least at the level of two stars, received with the accreditation of the NVAO (Dutch-Flemish Accreditation Organisation) awarding the 'special feature sustainable development'. DHO's AISHE method is a validated and recognized method for assessing the courses. The required minimum level is a DHO quality mark at the level of two stars, but this may change if the number of quality marks awarded at the level of two increases sharply and is therefore no longer sufficiently distinctive. It has been agreed that DHO and NVAO will meet once a year to determine whether the bar may need to be raised higher³¹.

Sustainability is an increasingly important theme in Dutch higher education and ranked in the Sustainability benchmark. In almost all attention is paid to policy plans sustainability, even if the strategies are running, implementation and monitoring often still here on behind. Challenges for Education lie in the integration of sustainability within courses where this is not per definition is obvious. One similar result can be seen at research, although the implementation of the sustainability aspect already there: there is research conducted on the field of sustainability from all kinds of different directions. The results in the category of business operations differ strong. There is a lot of attention for sustainability, but ambitious long-term plans are often lacking, so that the impact is usually limited.

In the field of social sustainability much can and must still be done to all times an inclusive and various environment to guarantee. Finally we see the Sustainable Development Goals of the United

³¹<https://docplayer.nl/908422-Deel-2-do-en-mvo-in-het-onderwijs-deel-2-duurzame-ontwikkeling-en-maatschappelijk-verantwoord-ondernemen-in-het-onderwijs.html>

Nations increasingly back in strategies and communication of higher education institutions. Still are there also in terms of implementation of this universal framework still great to take steps.

The ultimate goal is a full integration of sustainability in all aspects of the higher education. For this, the made the following recommendations: Involve students, teachers and others stakeholders in the development and implementation of the sustainability policy.

There are many possible ways to do this, such as participation councils, challenges, educational activities and sustainability platforms.

Make interdisciplinary (research) projects about sustainability issues part of the educational offer and get involved students from multiple disciplines. Use the Sustainable Development United Nations Goals (SDGs) as framework for the commitment to sustainability to provide insight.

Knowledge sharing between educational institutions offers opportunities. Let's love each other to learn. With this in mind, the 77 submitted best practices from this year bundled, so that everyone can get inspiration from this can pick up and get started.

Also a benchmark report is used as guidance for future efforts in the field of the sustainability of Higher education. Ensure that set sustainability goals are clearly monitored, so that are determined whether the goals are achieved. Ensure transparency about sustainability activities of the educational institution, for example by publishing performance via the Environmental barometer. The policy and current sustainability performance would be public should be accessible, and not just part of internal reports.

Methodology in green entrepreneurship training

The Dutch Methods of Green Entrepreneurial Training are as follows:

1) Lecture Method

As the name suggests, lecture method involves providing information to the trainees orally. In case of any doubt arising in the minds of trainees, clarification can be given spontaneously by the instructors.

2) Written Instructional Method

When the training contents are to be used in the future by the trainees, this method is used and it is most popular in case of standardized production system.

3) Individual Instruction

In this method, only one person is chosen for providing entrepreneurial training. When a tough skill is to be imparted in the candidate, this type of training becomes very useful.

4) Group Instruction

When the training is to be provided to the group of different individuals, this method is adopted particularly when these persons have to perform the same type of activities and similar instructions are to be given to all the candidates.

5) Demonstration Method

This method is mainly useful when the physical exposure is to be imparted by the trainer. In this method, the main focus is on providing practical knowledge rather than theoretical knowledge.

6) Meetings

This method of training mainly involves the group of people to discuss the different issues faced by them. They share their views, ideas and different conclusions are drawn on the basis of various alternatives and suggestions.

7) Conference

This method is generally used for imparting knowledge regarding new ideas and techniques to the trainees. Here, conferences are organised and experts from different fields are called to share their knowledge and experiences useful for the trainees.

Good practice examples for green enterprises

1) Dutch Good practices and examples of green entrepreneurship/ business development and successful implementation or projects

Imagine: you become a jury member of a Green Entrepreneurship award for Dutch companies. Quite an honor! It is about putting the spotlight on green entrepreneurs who are committed to the 3 Ps of people, profit and planet. The questions you have to consider as a jury member are: "How green active are the nominated companies engaged? And which of them is the greenest inclusive in doing so? We have to keep in mind that when we cluster Dutch companies, we can do that into 3 types, always citing a fictitious example.

- *"Old" companies that are going to be green and inclusive*

These are Dutch companies that have been around for 20 years or more. They have a great track record and have been successful entrepreneurs for years. Such a company may decide to turn its

business model to be more sustainable and green process towards inclusive green entrepreneurship. You often see that this is initially prompted by Social Return.

- *New companies that are green and inclusive*

In the second place, Dutch companies that opt for a green inclusive approach immediately upon their establishment. They make this part of their business case. From day one, they will consciously do green business with green products. The customers know that they are dealing with a social green entrepreneur to do the job and are fine with this. The company is flourishing, partly due to an enthusiastic director.

- *New companies that link inclusive green entrepreneurship to sustainable entrepreneurship*

In the third place, Dutch companies will engage in sustainable business practices. These are companies that therefore want to serve a double objective. Contribute to a circular economy and/or energy transition as well as to inclusiveness in the workplace.

These types of companies often continue to work on a relatively small scale. It's not that easy to scale up yet. Sometimes extra subsidy money is needed to keep the company viable or there is a relationship with an SW company (social local government company).

Below some good examples of Dutch companies that successfully use corporate social responsibility in their business strategy. We have not looked at the companies of which everyone knows the sustainable character, such as Tony's Chocolonely. But to examples of already existing companies that have integrated sustainability into the day-to-day running and business of their company.

- **Good Practise 1: Friesland Campina**

Friesland Campina is one of the Dutch brands that wants to be a leader in the field of sustainability. In 2015, Friesland Campina agreed to six of the United Nations' 17 Sustainable Development Goals. These development goals will continue until 2030. The goals Friesland Campina focuses on are the following:

1. An improved reach of food security and the promotion of sustainable agriculture
2. Sustainable consumption and production patterns
3. Climate Change
4. Protect, restore and promote ecosystems
5. Global Partnership on Sustainable Development

Finally, Friesland Campina is committed to sustainability on the farm. They want to produce milk in the most sustainable way possible. These are 4 examples of companies that have implemented

sustainability and corporate social responsibility in their business strategy. Do you want to do this too? Keep in mind that this is not a one-off action or collaboration with a good cause. Corporate social responsibility is a change that you undergo as a company. Are you ready for change?

- **Good Practise 2: PLUS³²**

Supermarket chain PLUS received a CSR award for the most responsible supermarket for the fifth time this year. At PLUS, corporate social responsibility has been part of the corporate strategy for several years now. They focus on a number of pillars: Origin of products, Health and vitality, A better environment, Local involvement and good employment practices. One of the pillars is the origin of the products. PLUS has published a 'Know the Chain' approach for this. One of the points of this report is that PLUS cooperates with a number of Fair-Trade initiatives. PLUS has joined Fairtrade for products from developing countries. At the moment, the PLUS coffee, bananas, chocolate bars and the tea are all Fairtrade classified. PLUS is working hard to provide all cocoa products with a Fairtrade label. At PLUS it is therefore clearly visible that CSR is integrated into the business strategy. They do everything they can to help local initiatives and to offer fair trade products.

- **Good Practise 3: Patagonia**

Clothing brand Patagonia is one of the best examples of companies that apply CSR. Sustainability and environmental protection are among the core values of the organization.

This is expressed in initiatives such as Worn Wear (webshop for second-hand Patagonia clothing), We The Power (documentary about the importance of local energy initiatives) and 1% For The Planet (1% of turnover is donated to environmental initiatives).

- **Douwe Egberts³³**

Douwe Egberts shows that CSR does not always have to be about huge sums and world-changing initiatives. Think, for example, of local social return initiatives such as a free barista training for job seekers in Nijmegen. Not that the company isn't doing anything. Douwe Egberts is also committed to making the coffee and tea market more sustainable through various initiatives. For example with environmentally conscious packaging and the use of residual flows as fuel.

Good practice examples for educational resources

Below are some examples of actions to promote the integration of sustainable development in education, which have been taken and/or supported by the Dutch government. It is by no means

³² <https://www.duurzamebedrijventerreinen.nl/4-goede-voorbeelden-van-mvo-bedrijven/>

³³ <https://deduurzameadviseurs.nl/mvo-voorbeelden/>

the intention here to provide a complete overview of policy actions and actions within the institutions.

Some specific green entrepreneurship education good practices are:

- ***Wellantcollege Best practice 1: Knowledge centers where companies and education come together / example project Netherlands Zoemt***

Wellantcollege has five knowledge centers ("hotspots"), in which social institutions and the business community work together on the Sustainable Development Goals. The Green Hotspot in Houten is an example of such a knowledge center. One of the ongoing projects in this knowledge center is Nederland Zoemt ³⁴(The Netherlands is Buzzing). Together with, among others, 'Nature and Environment' and Naturalis, Wellantcollege has developed materials to educate a large group of people in bee-friendly management and bee-friendly gardens. Wellantcollege has developed the teaching modules and courses. 200 professionals have already been trained (through a Wellantcollege course). In addition, the teaching material is included in the curricula of all Wellant green courses. This knowledge is of course included in all model gardens that students have to create and when designing the outdoor space of various Wellant locations, such as the Wellant park in Houten. Interested parties can view all bee plants on the Nederland Zoemt website. A book on this subject is also been published in September 2019, written by our lecturer bee-friendly management and bee-friendly gardens (Arie Koster). In short: an innovative, sustainable project with a major impact in terms of reach and sustainability, in which education, practice and business operations come together.

- ***Best practice 2: Friesland College 2019 DidacticsCurriculumEnvironment MBO National Test Center for Circular Plastics (NTCP)***

The Friesland College carries out a sustainable assignment for the NTCP in the context of circularity. The NTCP has issued an assignment in which students from the Friesland College from various courses work together to create a mobile classroom containing a number of machines that recycle plastic. For example, the students of construction, metal and creative craftsmanship work on the implementation of the classroom. An old shipping container is converted into a classroom where these students each perform a piece that fits their education.

Metal students provide reinforcement for the construction and make doors and windows in the container. Students of construction and creative craftsmanship provide the finish on the inside and

³⁴ <https://www.nederlandzoemt.nl/>

representativeness on the outside. The process takes into account the most sustainable construction and reuse of materials.

In addition, students from Megatronica and Electro started making plastic shredders based on building plans from the open source³⁵. The shredder and "extruder" are now ready and work is being done on a coil. The students use waste from the 3D printer or plastic laser cutter to process in the plastic shredder so that it is converted into plastic chips. Those plastic chips are heated in the extruder and come out as a wire that can be used for a 3D printer. In this way, the students also process waste from their own workplace and the process becomes circular.

They are building the plastic shredder and extruder on the basis of the open source "precious plastics". During the making process, the students discovered that a number of aspects in the process could be improved. For example, they discovered (through trial and error) that certain parts should be replaced more easily, so that they do not weld certain parts, but connect them with a kind of click system. The knowledge gained from the manufacturing process is fed back to Precious Plastics.

Ultimately, the converted sea container goes to various primary and secondary schools in Friesland to provide information about the recycling of plastics. The classroom can also be used at festivals or events in the area to show how you can reuse local plastic. Here, students of our pedagogical employee training can help develop and implement the education/information programme.

The plastic shredders have already been presented at the Wiegelgroep, a network group for collaboration between the Friesland College and large companies from Friesland. The audience was very excited to see that the boys feel so connected to education. John Vernooi, director of waste processing company Omrin, enjoyed the students infectiously; he offered the students who worked on the plastic shredder to come along on a working visit to a large recycling factory in Germany. This also creates sustainable partnerships with the business community.

Good Practices Higher Education

The green entrepreneurship education good practices are:

- ***Best Practise 1: Social Sustainability "WOOW" - Zuyd Hogeschool***

The Living, Training, Entrepreneurship and Working (WOOW) project is an integrated program aimed at a series of social challenges and transitions in Limburg, such as: shortages in the labor market, demographic decline, integration, quality of life, vacancy and the energy transition. WOOW

³⁵ <https://preciousplastic.com>

is based on integral and interdisciplinary collaboration between knowledge and educational institutions, the business community, governments and social organisations. Together, the partners develop a multitude of practical bottom-up solutions. WOOW offers a work-study trajectory to prepare old and new workers for a career in the Limburg construction and installation industry. In two years, 50 participants will participate, including a group of status holders. WOOW is also working on neighborhoods of the future through an integrated neighborhood approach. In the Saffierflat in Heerlen, WOOW is developing a Living Lab that focuses on socio-economic reinforcement. The flat is being renovated and made more sustainable with the efforts of students. The neighborhood is explicitly involved in the social function of the building and there is room for small entrepreneurs and practical training.³⁶

- **Best Practise 2: Wageningen University - MOOC: Becoming an Agent of Sustainable Change**

The Wageningen University has developed the 'The Massive Online Open Course (MOOC) 'Becoming an Agent of Sustainable Change'³⁷ engages the participants in developing their own real-life sustainability project. The MOOC was designed and developed by a group of students, as part of a student challenge. Throughout the course, participants encounter different aspects of sustainability. In seven modules they receive information on how to make a sustainable change in their own life with a personal project. They are challenged to think critically and to learn from each other's insights. The MOOC is based on sustainability competencies (systems thinking, futures thinking, collaboration, values thinking and action competence) and inspired on education given at WUR. In this way the course provides more student-centered learning opportunities. The MOOC was launched in May 2020. The course is accessible for people all over the world and reached 110 nationalities up to now.

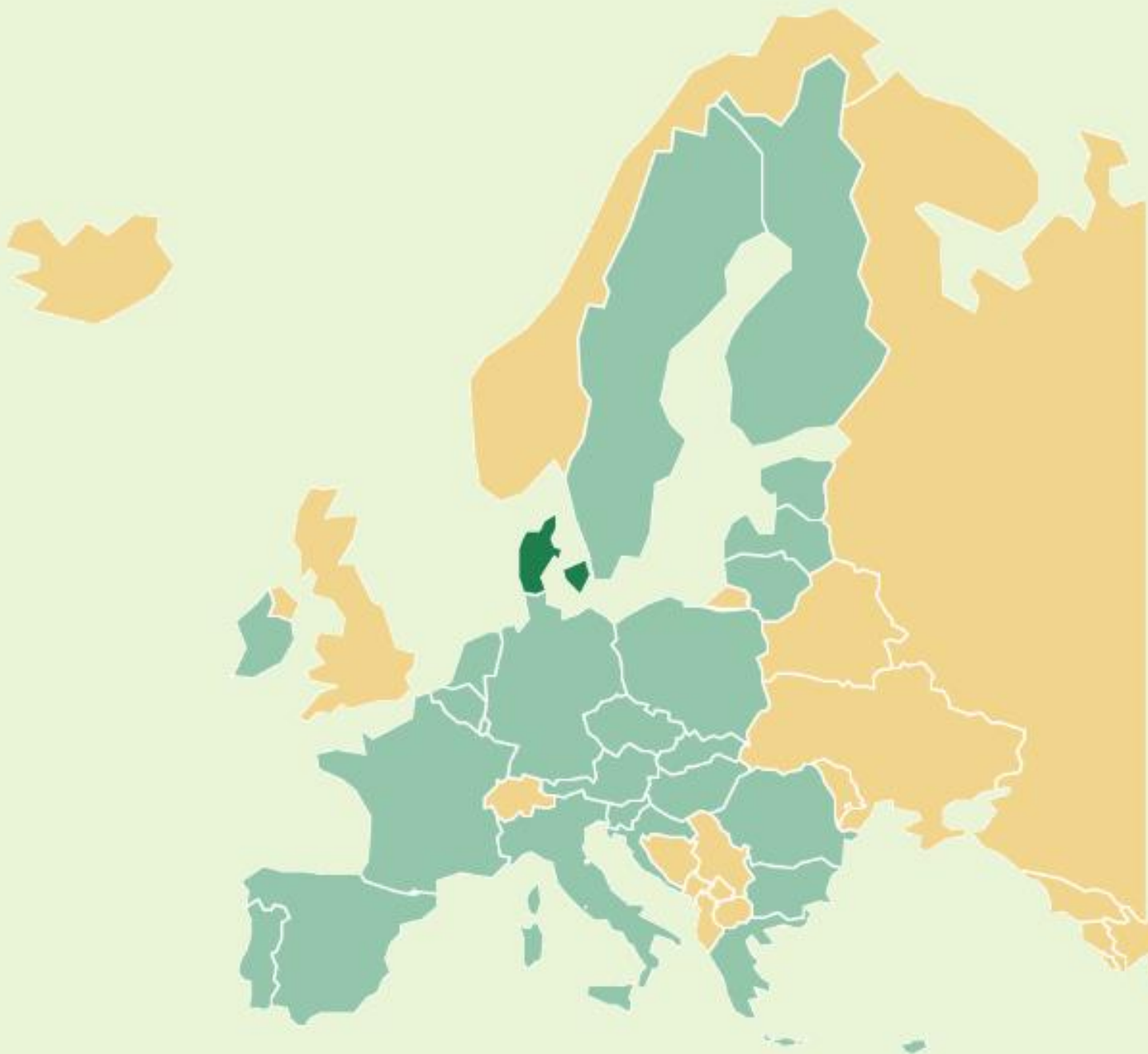
- **Good Practise 3; Groningen University - Sustainability in the curriculum**

Rijksuniversiteit Groningen Under the supervision of Green Office at the University of Groningen, Green office of ambassadors of the Medical faculty are looking at sustainability in the curriculum. Our focus is on analyzing the bachelor program aimed at gaining and insight in the level of integration of Cross-cutting principles for planetary health education in the curriculum which consists of 2 main courses. One is about causes of diseases and the other one is about the competency and professional development. Out of the 12 principles, 2 were integrated regarding climate change (no. 7 and 11), 6 principles were integrated in a more general way. Out of a

³⁶ <https://www.zuyd.nl/over-zuyd/nieuws/2020/12/woow>

³⁷ <https://www.edx.org/course/becoming-an-agent-of-sustainable-change>

questionnaire among medical students, 79.4% of respondents think that sustainability/climate change are interesting topics and relevant to Medicine. Based on that ambassadors at the Medical faculty are creating an extracurricular course about sustainability as a model for the faculty to implement in the curriculum.



Green Entrepreneurship in DENMARK

"I have changed my opinion. The green is no longer secondary. I am no longer red before I am green"³⁸ The Danish Prime minister have recently expressed the above quote in Danish television, which is a very interesting and prominent statement coming from a social democratic prime minister. In line with the above, several environmental initiatives have been enrolled and the investments coming from the ministries are focused on companies, research and local initiatives. In Denmark, in general the climate agenda are one of the top priorities in the political sphere,

³⁸ <https://politiken.dk/debat/kroniken/art8600096/Jeg-har-skiftet-mening.-Det-gr%C3%B8nne-er-ikke-!%C3%A6ngere-sekund%C3%A6rt>

perhaps only competing with the refugee agenda. The environmental sustainability agenda is represented by several green parties both in parliament and running for parliament. Additionally, the parliament has set up a youth climate council, which is a part of negotiations regarding environmental sustainability.

The universities offer educations with a green touch along the whole curriculum e.g. in sustainable engineering, sustainable architecture and many subjects are also available in political science, philosophy, green ethics, arts etc. It is also an agenda in the curriculum of the primary schools. Here, they are taught in the Sustainable Development Goals and all 6 graders have a thematic week in green innovation. The Fond for Entrepreneurship have also identified the significant role of the vocational schools in sustainability and entrepreneurship. In Denmark, the vocational schools are currently offered various subjects in entrepreneurship and sustainability, as well as having yearly competitions in creating innovative and sustainable solutions to the dilemmas that occur in their specific profession³⁹.

A lot of NGO's and grass root organizations have started and grown in the last decade, all created by young people and the elderly generation. We have a huge community in the Fridays for Future Mobilization, the Green Student Movement, Greenpeace, Global Action, IWGIA, etc.

Regarding the entrepreneurial possibilities in Denmark, we have some advantageous politics. This means that start-ups and small enterprises can get taxation benefits in the first years of existence, in order to promote innovation and so that young people have the possibility to enter the market, without having millions in savings beforehand. This is also caused by the high tax level in Denmark, which for most people lies around 50% of their salary.

Definitions

In Denmark, the term Green Entrepreneurship is not common, instead Sustainable Entrepreneurship is used. The Fond for Entrepreneurship, which is a member of JA Worldwide, in June 2020 has published a report under the title "Sustainable Entrepreneurship"⁴⁰. The main issue of this report is "What is sustainable entrepreneurship?" and "Why is it relevant now?". It centers around education, strategic frameworks and young people in start-ups. It is stated that "Innovation, business and entrepreneurial skills must go hand in hand with green and sustainable values. This is what we call sustainable entrepreneurship" (Ibid, 3)

³⁹ <https://via.ritzau.dk/pressemeddelelse/erhvervsuddannelser-er-en-staerk-vej-til-ivaerksaetteri?publisherId=13559551&releaseId=13579666>

⁴⁰ https://www.ffe-ye.dk/media/792196/del-1_videnom-baeredygtigt-entreprenoerskab.pdf

Circular Economy is a term that is impossible to avoid when talking about sustainable entrepreneurship. Going into sustainable entrepreneurship, the value chain on which you base your enterprise, must be of significant focus; from design and consumption to waste management⁴¹. The Ministry of Environment of Denmark designed the Action Plan of Circular Economy in 2020, which has indicators, policies and initiatives, as guidelines for enterprises to follow into becoming more sustainable⁴².

Why is sustainable entrepreneurship a good idea?

A Global 100 progress report, which was made in collaboration with World Economic Forum in January 2020 proves that green enterprises and start-ups already have the same - or a better turnover than regular or 'non-sustainable' enterprises. This speaks against the old idea that environmental accounts are not in favor of high growth of the company. Economists worldwide predict that sustainability will soon be more prioritized than economic growth itself, both by politicians and investors. The regards to the employees, the environment, the customers and the surroundings are today more valuable for the investors, which makes green enterprises lucrative. The ESG data on enterprises are becoming an important factor for investors, which focus both on economic, environmental and social sustainability.

In Denmark, there is currently a low rate of unemployment, around 2,4%, also among young people. As a result of that, the Danish youth experience a low-risk market to enter, as many start-ups survive in a healthy labor market in Denmark. Many people also have experience from working from a young age, which means they are already experienced, when they want to start up as entrepreneurs.

Legislation

The Ministry of Environment of Denmark states that "By securing investments in the digital support of climate adaption, we can in a better manner and more precisely calculate risks and vulnerabilities. This ensures that we prioritize the best actions in areas most at risk. The solutions will be dimensioned in order to handle both current and coming climate adaptations e.g. water masses". This is one of the top priorities in Denmark from the Ministry, as local areas are struggling from climate change e.g. with biodiversity, water increases etc. This means that Sustainable Entrepreneurships which are working in this field, and especially with digital solutions, are prioritized in investments. The Ministry of Environment of Denmark are also required, according to

⁴¹ <https://en.mim.dk/focus-on/>

⁴² <https://en.mim.dk/focus-on/circular-economy/>

the EU 2030 Framework for Climate and Energy Policy, to reduce emissions from the non-ETS sectors by 39% by 2030 compared to 2005 emissions.

In 2020⁴³, the Danish parliament adopted a climate law, which are applicable for the next decade. In relation to the climate law, the Danish Green Future Fond was created and given 25 billion kr (over 3.3 bln EUR). for investments in green solutions and technology. Two of the most essential parts of the climate law is:

- Reduction of CO2: Denmark will reduce CO2 emissions by 70 per cent by 2030 compared to 1990
- Climate neutrality: By 2050, Denmark must emit no more CO2 gases than it absorbs

With the climate law, the above targets became judicially binding and are obligatory for any given minister to follow, no matter from what party he is. The Climate Council, which is an independent external evaluator, will every year create a report calculating and assessing how Denmark is progressing with these reduction goals.

COVID-19 put a stop to some of the great ambitions but are now again in progression. As well the COVID-19 formed seriously bad conditions for new enterprises. Therefore, the Danish parliament created a help package, which covered 80% of the salaries and other expenses such as rent etc. These emergency laws were included, of course, all enterprises and not only new start-ups. Additionally, the law had the circumstance that no employee could be fired if the enterprise received help packages. The law helped the companies to sustain and survive the pandemic and move on from where they left, without a great loss and with the same employees, as well as kept the unemployment low.

On EU level we have seen the new taxonomy regulation beginning from 2022, which is obliging larger companies to report on their sustainable accounts and a further directive will come into force in 2023, obliging companies with as few as 250 employees to report⁴⁴.

Training and Methodology on green entrepreneurship education

Educational Offers

Many Danish educational institutions have been proactive in developing courses in sustainability. At VIA University College in Denmark, expert Birgitte Woge Nielsen have been teaching in "Grow A Business"-model states that you should first not start a business and then make it sustainable,

⁴³ <https://ens.dk/ansvarsomraader/energi-klimapolitik/fakta-om-dansk-energi-klimapolitik/dansk-klimapolitik>

⁴⁴ <https://itb.dk/maerkesager/mennesket-foerst/nye-krav-vil-forpligte-danske-virksomheder-til-mere-baeredygtighed/>

but it is more beneficial to think it green from the beginning. She also believes that sustainable entrepreneurship is perhaps even more broad than entrepreneurship as we know it, as it draws knowledge from more scientific areas and must include social, economic and sustainable factors of sustainability.

At the University of Southern Denmark, the subject Inspire-Educate-Innovate are taught at the physics and chemistry department. They have a nature scientific approach to sustainable entrepreneurship, and at the same time use partnerships from other departments such as engineers etc. Additionally, the Fond for Entrepreneurship has created an educational material based on the research of the enterprise's terms and conditions, the political framework and the scientific aspects of sustainability in Denmark. This was created with help from the Tuborg Fund and are a series of 4 debate programs with focus on sustainable entrepreneurship and the Sustainable Development Goals.

The Academy for Talented Youth have in 2018 launched a talent program for young people at vocational schools, where the students are taught in innovation and entrepreneurship and where they get to develop and try their solutions for the problems of the future labor market. The Nordea Fund have sponsored this with 1,6 mil. kr (nearly 215k EUR). The initiative is a one-year diploma program, which is an addition to their regular schedule. During the program the young people meet politicians, investors and people from different professions, to get input and further develop their innovative ideas⁴⁵.

Good practice examples for green enterprises

One of the biggest private funds in Denmark is called the Tuborg Fund. They have a year-long history of prioritizing young people and entrepreneurship with their start-ups, projects, educational offers etc. They have created a fund specifically for sustainable entrepreneurship and is a fund primarily for people between 16-30 years old. "Young people's entrepreneurial and innovative skills which promotes entrepreneurship in the green conversion across gender and educations"⁴⁶. This is an offer for young people not to risk their whole private savings, still give the possibility to think outside the box and be innovative with the support of a stable fund. They will provide the entrepreneurs with guidance along the way as well.

"In the future, it is necessary for the Danish industry to live of developing climate friendly solutions, and Danish enterprises are therefore in need of young people with new ideas and fresh perspectives, who wants to try green business models and start green enterprises. As well, the

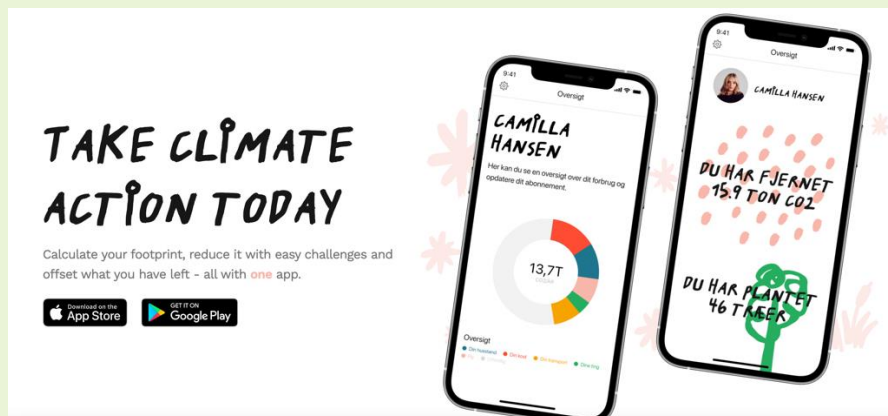
⁴⁵ <https://talentfuldeunge.dk/erhvervstalenter>

⁴⁶ <https://www.tuborgfondet.dk/entreprenoerskab/>

youth also play a key role as they again and again demand a green agenda on politics and social life and mobilize even more people into it"⁴⁷. Tuborgfondet wants to strengthen the young people's possibilities to accelerate the green conversion and support activities that promote sustainable values and create green innovation and power to act.

CLIMAIDER⁴⁸

A best practice example is the Danish enterprise Climaider. Climaider has developed an app which makes it easy for people to behave and act more sustainable in their everyday life. The people behind Climaider have been very caseous about their own CO2 footprint while creating their enterprise. As well, they are helping other organizations and institutions yearly to calculate their CO2 footprints and give them strategic advice on how they can work on getting better every year. In their app, they calculate the amount of CO2 you have decreased your consumption by, after working through the challenges the app gives you.



"Camilla Hansen has planted 46 trees through her support and removed 15,9 ton of CO2"

Climaider is an example of good practice educational material, which have through years proven to have an impact on people's actions. It helps people understand their own carbon footprint and develops their personalized techniques to improve their sustainability. For every time you complete a challenge you help reduce emissions.

If Climaider is analyzed according to the criteria of the AGE projects indicators for good practices, it can be said:

- Validity: Climaider and the people behind the concept and app have an external validity. The initiators are not bound to a specific context and the material in the app are now

⁴⁷ <https://www.tuborgfondet.dk/entrepreneerskab/>

⁴⁸ <https://climaider.com/>

translated into English in order for it to be used in other countries as well. The founders have participated in the Danish national TV show "Good Morning Denmark" which has more than a million viewers and have presented their results in collaboration with other companies. As well, every year Climaider work as consultants for some of the big media houses in Denmark, where Climaider calculate their CO2 emissions and create strategies for new solutions for them to improve before next years calculations.

- Detailed Description of practice: The app has a very detailed model you can follow step by step as a user and consumer. The material can be repeated and used several times, and are developed for every person's specific needs.
- Focus on the topic: This example is primarily focused on education - meaning that Climaider has creating educational and practical material for the users.
- Effectiveness: It is an example of the way a green enterprise can be run, as well as having the goal of creating green solutions. Climaider's material is available for free both on the website and in the app, also in both Danish and English, which makes it quite effective.

Planet Nusa – Sustainable Sportswear

Powered by happy women. We are doing everything we can to provide you with planet friendly workout gear! Using only recycled materials and the best factories in Europe! We're so thrilled about having you on the Planet Nusa team!⁴⁹

Lastly, the enterprise Planet Nusa is highlighted. This enterprise is driven by women and produces sports clothing primarily to femmes, only based on recycled and sustainable materials. They urge to CO2 compensate when transporting their materials. Planet Nusa are driven on circular economy and focus on sustainability all around their enterprise's supply chain.

Their sustainable core values are:

- Positive Social Impact
- We Love Where We Live
- Primarily produced in Europe

Planet Nusa are a best practice example, as the women behind the company have a well-described vision and they are recognized as a respected enterprise, especially known among young people.

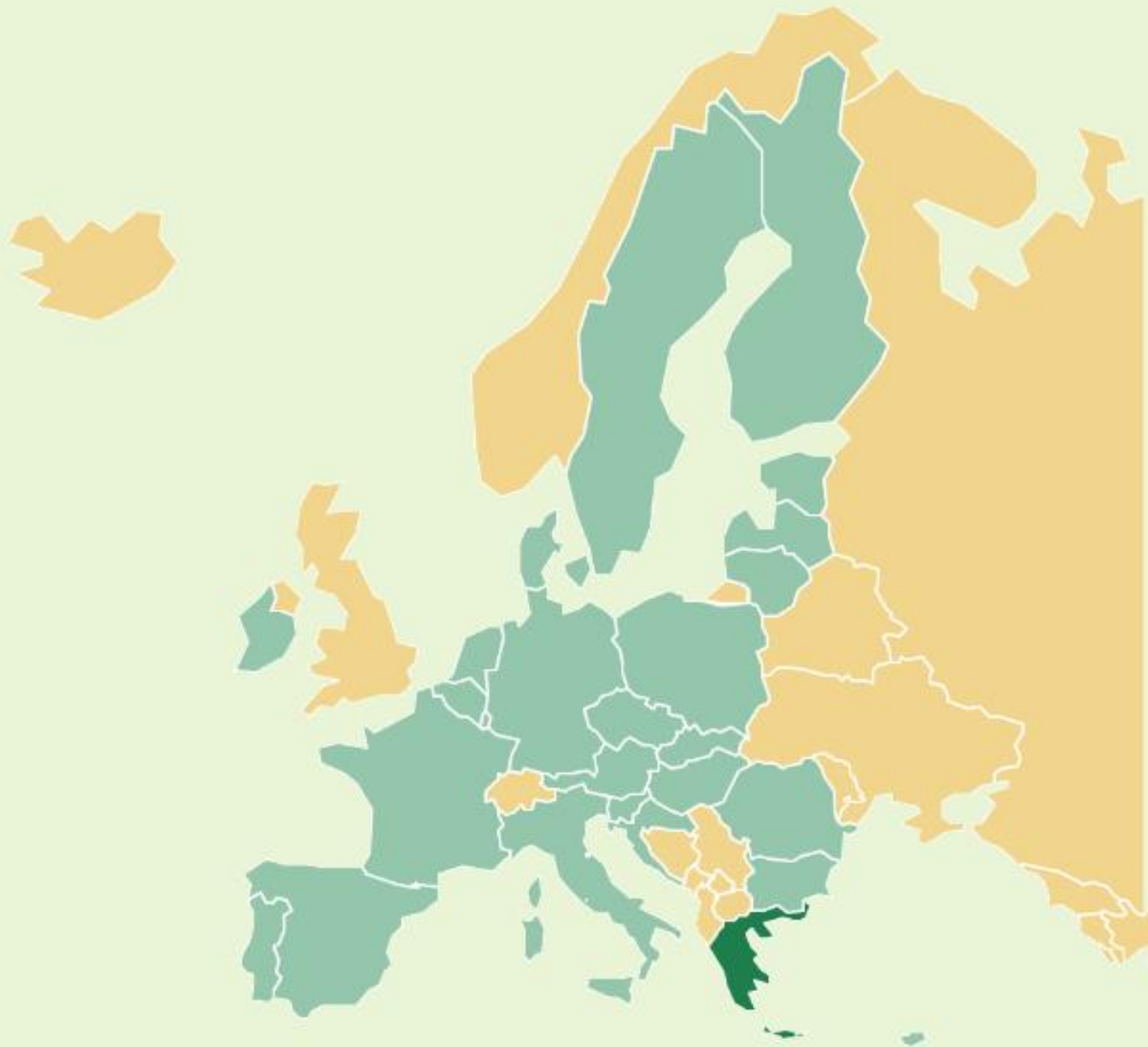
Findings & Conclusion regarding the Green entrepreneurship in Denmark

⁴⁹ <https://www.planetnusa.com/pages/sustainable-core-values>

During this desk research, it has become clear, that sustainable entrepreneurship is significantly in progress and is given noteworthy attention from both politicians, private investors as well as schools, NGOs and institutions in Denmark. They all facilitate and promote innovative and critical thinking and the powerful institutions invest a lot in creating beneficial circumstances for entrepreneurial skills and start-ups.

The Danish Climate Law is of high value when speaking of the circumstances for sustainable entrepreneurship. It has foreseen 25 billion kr (over 3.3 bln EUR) to promote sustainable solutions and new tech innovations.

Some best practices were highlighted, namely Tuborgfondet, Climaider, Planet Nusa and a lot of educational programs. This creates a solid foundation to investigate the enterprises in field research.



Green Entrepreneurship in GREECE

In the context of the strong international and European interest in protecting the environment and seeking to reconcile the concepts of competitiveness and ecological awareness, many initiatives have been implemented also in Greece. The pandemic was a severe test for all businesses which were forced to adjust and change their activities in the new conditions and triggered several digital and green initiatives⁵⁰. Green technologies are necessary for the transition to the new era of design of products and consumption of energies. Recycling and circular economy have a leading role in

⁵⁰ R. Ruban, V. S. Rajashekhar, B. Nivedha, H. Mohit, M. R. Sanjay, Suchart Siengchin, Role of Additive Manufacturing in Biomedical Engineering, Innovations in Additive Manufacturing, 10.1007/978-3-030-89401-6_7, (139-157), (2022).

this transition, while education and entrepreneurship will create the framework of action. Greece as an EU member state, is implementing actions and policies which are responding to the EU priorities and strategies. The Ministry responsible for developing and implementing strategies and actions for Environmental topics is the "Ministry of Environment and Energy". In 2018, Greece renewed its commitment to sustainable development in a voluntary review on implementation of the 2030 agenda⁵¹, while it has announced as well a climate change mitigation and adaptation plan, in order to achieve climate neutrality by 2050 via the National Energy and Climate plan to 2030.

Greece has today an important privilege because of its natural and cultural environment, which can foster the development of green entrepreneurship, although green technologies don't have the attention needed and deserved yet within the country, especially in regards of renewable means of energy (eg. sun, wind etc.)⁵². Green entrepreneurship is one of the major sources of income for Greek economy since it empowers the investments while creating green employment. Greece benefits from its natural capital and the renewable energies, growth in green and alternative tourism, innovation in agriculture and food industry. Few reasons proving the comparative advantage of Greece in terms of green entrepreneurship can be the eco-tourism, the eco-system, which can facilitate alternative tourism and the utilization of the rich cultural heritage and tradition, which can bring new businesses and technologies in the country. At the Environmental Implementation Review 2019⁵³, done by the European Commission for Greece, it is stated that the country has done some progress on specific fields of the EU environmental policies. Greece, is facing 3 main challenges in terms of environment a) to address waste management, b) to improve nature protection, c) to complete the implementation of the Urban Waste Water Treatment Directive.

Greece, is a country with a low ranking in the Eco-Innovation Index since with a score of 75 it takes the 19th position in EU28 countries⁵⁴. There is no relative tradition in the efficient usage of the resource, although Greece has a good performance in the eco-innovation outputs which exceeds the EU average (Eco- innovation report,2019). Environmental policy in Greece focuses on encouraging the use of renewable energies and applying energy efficiency and waste management measures that promote eco-innovation⁵⁵.

⁵¹ OECD Environmental Performance Reviews, Greece 2020

⁵² Ministry of Environment: Green entrepreneurship, PANDOIKO, 2003

⁵³ https://ec.europa.eu/environment/eir/index_en.htm

⁵⁴ https://ec.europa.eu/environment/ecoap/greece_en

⁵⁵ https://ec.europa.eu/environment/ecoap/greece_en

Circular economy in Greece, takes an active role in the strategies and policies of the country after 2015. Until then, the Greek Economic Model was characterized as unorthodox and short-sighted with no long term wins. The Greek Government has set the framework of the "Action plan for the Circular Economy"⁵⁶ published in 2018 by the Ministry of Environment and Energy, through which a Circular Transition Business plan of Greece has been prioritized with main goal to enable green practices in the various business sectors. This is a step towards the long term adaptation of new principles fostering new era of circular economy policies which will support the economic growth and will use an efficient method on the consumption and production. This action plan fosters 3 strategies focused on the sustainable resource management, the empowerment of circular entrepreneurship and the circular consumption. Important advantages of circular Economy are the great added value in corresponding investments due to the low cost of raw materials and the intensity of knowledge required in many cases. The circular Economy Model is easily adjusted in the Green Economy because of the numerous opportunities and possibilities of taking advantage of the resources both in natural level and in human capacities⁵⁷. The economic crisis offers more possibilities for the development of Circular Economy projects in Greece, while creates new job positions, expands the labor market and gives opportunities for small and medium SMEs. However, very few SMEs have as their main activity green productions or implement strategies for the protection of the environment and they are mainly small and medium businesses. There is a need of motivating businesses on planning and implementing targeted action with main goal the design of green products and technologies.

Circular Economy is an opportunity and an urgent need for Greece since the country has a wide capacity on implementing the EU strategies due to:

- The available natural resources and the untapped secondary resources and waste,
- The scientific potential and the "know-how" together with the productivity and the technical knowledge of the professionals,
- The primary sector with the continuous potential of modernization and reduction of production costs,
- The low rates of productivity of the resources and energy,
- The available EU strategy framework available together with the funding tools.

As far as social economy and entrepreneurship is concerned, until 2011, Greece was lacking behind other EU countries regarding legislation, but efforts have been made ever since with 2 laws issued in 2011 and 2016. It created a special classification of organizations involved in Social Economy,

⁵⁶ <https://ypen.gov.gr/perivallon/kykliki-oikonomia/16052-2/>

⁵⁷ National Strategy for Circular Economy (2018)

giving a specific importance to companies acting in the field of Sustainable Development. This was reinforced by several Institutional Amendments, which set up goals such as the dissemination of “the Social Economy practices in various fields of the economy contributing to sustainable development”⁵⁸.

The policy framework of Greece aims to support the innovations which will improve specific activities in relation to eco-innovation. Moreover, the legislation framework in Greece has not been specialized in green entrepreneurship but it is focusing on the circular and social economy which acts in all 4 business sectors. The protection of environment is governed by the Greek Constitution and established under the principle of sustainable development which is the starting point for all responsibilities, commitments and rights from the public authorities and the individuals.

Specifically, we can mention the following:

The Annual Action Plan of the ministry of Environment and Energy⁵⁹:

The 2021 annual plan of the Ministry of Environment and Energy, sets as one of the main goals the reinforcement of recycling and fostering the principles of circular economy. The Ministry has connected its goals with the General Governmental Plan and especially under the goal number 5 which targets the limitation of the usage of plastic, the enhancement of recycling, the upgrade of the current facilities for the management of waste. The Annual Action Plan comes with suggestions for programs which will be implemented by the municipalities and regions.

New Action Plan for Circular Economy⁶⁰:

In March 2020, European Commission presented the New Action Plan for Circular Economy, which is part of the main pillars of the European Green Deal. Greece, already since December 2018, has published the National Strategy for the Circular Economy and the National Action Plan 2018-19 which has been constantly renewed. The coordination of the implementation of the plan has been conducted by an inter-ministerial committee focused on the circular economy and a national council for circular economy for the construction of priorities and strategies. The desirable benefits from the action plan is the transition towards a model of sustainable development with specific targets and actions which will guide the national and regional authorities, the consumers and the businesses in the implementation of greener practices.

⁵⁸ Katarachia, A. (2018). Social economy and entrepreneurship in Greece.

⁵⁹ Annual Action Plan 2021, Ministry of Environment and Energy <https://www.government.gov.gr/>

⁶⁰ <https://ypen.gov.gr/perivallon/kykliki-oikonomia/16052-2/>

National Waste Management Plan⁶¹

The NWMP describes the policies, strategies and main working pillars for the management of waste in Greece which is developed in parallel to the policies and suggestions of the EU legislation. The plan foresees the separate collection, the empowerment and upgrade of the Centers for recycling as well as to the development of a new strategy of “I pay for what I throw” together with campaigns for raising awareness for citizens on the importance of being part of this movement. The NWMP was suggested in 2020 and is working from 2021 until 2030.

National Energy and Climate Plan⁶²

The National Energy and Climate Plan is presenting the Governmental Strategy for issues that concerns the Climate and Energy, as well as it includes an analytical guide on how to achieve these goals until 2030. This plan is part of the actions that Greece is taking in order to reach to the long term sustainable development goal of climate neutrality until 2050.

Innovation Policies from the Ministry of Interior⁶³

The Greek Ministry of Interior has launched a plan for the transition of the public organizations toward a greener, more innovative and digital environment. This action is aiming to suggest new policies to the public sector in order to support their involvement to innovative, technological practices. Within this framework there are workshops suggesting green entrepreneurship as a tool for further development of the social entrepreneurship.

Training on green entrepreneurship education

The Greek national higher education (HE) system is promoting the role of sustainability and economic growth. Recent efforts have concentrated on developing research collaborations and partnerships, promoting student exchange, and joint programs with universities abroad. The concept of entrepreneurship education is being generally supported. However, Greece should further mainstream green entrepreneurship education within the HE system. Universities can be a driven factor in the evolution of mentalities towards this direction and can shape their students into future citizens perfectly aware of climate change. Several universities are now providing courses on such issues, enabling its students to develop green skills.

Additionally, there are non-typical training/education programs and activities that elaborate on the subject of green entrepreneurship and are provided by nonprofit organizations or Centers of

⁶¹ <https://ypen.gov.gr/diacheirisi-apovlition/sterea-apovlita/>

⁶² <https://ypen.gov.gr/energeia/esek/>

⁶³ <https://innovation.gov.gr/innovation-policy/>

Continuing Education and Lifelong Learning (CCE/KEDIVIM). These latter, implement training programs to highlight the concepts of sustainable development and green entrepreneurship both integrated into a broader context that concerns environmental management an integral part of business operation. CCEs can be public institutions or private. Therefore, the courses they provide are whether for free or on charge.

Some examples of green entrepreneurship education and training are indicatively mentioned below:

Master in Sustainable Management of Environmental Change and Cyclical Economy⁶⁴

Department of Planning and Regional Development, School of Engineering – University of Thessaly. This Master program aims to achieve an in-depth diagnosis and understanding of environmental problems and the way they are related to the human factor; it explores ways of managing these problems by making the most of science, technology and governance, setting the goal of sustainability. The protection of the environment must be achieved for the benefit of society and with the lowest cost for the economy (Duration of MA: 3 semesters | Cost: 2.900 €).

Green Innovation – Entrepreneurship module: One of the modules included in the above mentioned MA program is "Green innovation - Entrepreneurship". It aims at improving students' abilities to recognize, evaluate and articulate opportunities in the field of innovation related to green / sustainable economy and to understand the resources needed to enhance green / sustainable business growth and growth. In this context, models and practices of intellectual property management and commercialization are presented and analyzed that can have a say in a society and economy sustainable in terms of energy and environmental resources.

Training Program in Social & Green Entrepreneurship by Athens University of Economics and Business. It approaches⁶⁵, analyzes and discusses in depth the creation and management of social and green impact initiatives. It focuses on business approaches and skills that make it easier for individuals to maximize the social and green impact of their actions. The program provides a certificate of vocational education and training (It demands tuition fees and the duration is 100 teaching hours).

⁶⁴ http://www.prd.uth.gr/m_smeccce/

⁶⁵ <https://dose.aueb.gr/program/antikeimeno>

Green Entrepreneurship and Innovation module⁶⁶

Department of Forestry and Management of Environment and Natural Resources, Democritus University of Thrace. This course is part of the department's curriculum and aims at introducing students to the concepts of entrepreneurship, green entrepreneurship and innovation. Students also learn how to construct business plans related to the green economy and growth.

Green Entrepreneurship Workshops in Crete⁶⁷, in the framework of the GreenTecLab project, by the Technical Institute of Heraklion Chamber of Commerce and Industry & the Greek-German chamber. These workshops are conducted, online and can be attended by young people and/or startupper, who want to develop "green" business ideas and establish their own "sustainable" startup. In particular, it is a project aimed at businesses, students, young scientists, green business strategies aimed at saving resources and energy in companies and organizations, the development of green products, the promotion of green entrepreneurship and the green supply chain.

Methodology in green entrepreneurship training

Green Entrepreneurship trainings in Greece are not widely known, although they are developed and delivered by various institutions, private learning centers, companies, startups and universities.

Specifically, there are programs that are offered online through the Lifelong Learning Programs that are provided from Universities and/or Educational centers and they address to learners who want to develop their skills in green entrepreneurship. There are not many courses exclusively about green entrepreneurship, normally it is part of a wider course in entrepreneurship, sustainable development and/or circular economy. Most courses are implemented online as e-courses but also face to face. From the above mentioned courses learners participate in various modes and learning methods and in different academic levels. Summarizing the information collected by this research, we can mention the following common methodologies for all programs. There is always a theoretical part which is addressing all the necessary theory on circular economy, entrepreneurship and the principles of green entrepreneurship. Additionally, a common value we have noticed in the programs is the need to cover the gap between theory and practice in order to empower the learners in critical analysis of the market and the needs of their businesses. Most programs suggest study cases and offer tools of designing green business models, implementing their ideas and monitoring the development through pilot projects.

Few examples on the methodology used in the training programs implemented in Greece:

⁶⁶ <https://fmenr.duth.gr/en/courses/green-entrepreneurship-and-innovation/>

⁶⁷ <https://www.katartisi.gr/seminars/seminars/621-2-e-greentecla>

Firstly, the Master program in Sustainable Management of Environmental Change and Cyclical Economy. Green Innovation – Entrepreneurship module is developed 13 weeks during the winter/spring semester. The master is implemented in the premises of the University of Thessaly. Each week includes a lecture and presentation of selected case studies depending on the content of the lecture. Students are evaluated based on their participation in the course, the submission and presentation of individual written work in the middle of the semester and the submission and presentation of group work-plan. A very extensive bibliography is provided to the students. The content apart from the introductory courses, focus on sustainability, green businesses, green innovation, green products and green innovation management. Secondly, the Green Entrepreneurship representatives of organizations or companies, unemployed people, producers, incubators, academic institutions, local groups, companies, business consultants and start uppers.

Summer School entitled "Green Entrepreneurship and Environmental Management" by the University of Macedonia (Duration 30 teaching hours | Cost 230€). The aim of the program was to present the modern and Innovation module which is offered as a bachelor course by the Department of Forestry and Management of Environment and Natural Resources by Democritus University of Thrace, is offering lessons on entrepreneurship, green entrepreneurship and innovation. The course is also conducting desk and field research on green economy and analyze the available technologies and its usage in entrepreneurship. The course is evaluating the existed framework in the country and is combining the theory and the practice on the development of green entrepreneurship and innovation.

Lastly, the training program in Social and Green Entrepreneurship which is implemented by Athens University of Economics and Business, is conducted online and runs in parallel with other international programs in entrepreneurship such as the University Schools of Management in USA (eg. Harvard Business School, Stanford Business School) and in Europe (eg. INSEAD) and teach social entrepreneurship at many academic levels such as undergraduate, and postgraduate. The course is designed in a way that contributes to the empowerment of social and Green Entrepreneurship in Greece and helps learners to gain new techniques, tools and methodologies in sustainable development and green entrepreneurship.

To sum up, Green Entrepreneurship trainings are on the making in Greece. Though, there are few programs offered from the biggest public business universities in Greece in the different academic levels. This shows that the first steps are made towards the sustainable education and the change of culture and mentality both of the entrepreneurs and the general public. Green Economy suggests the combination between economic growth and the protection of environment, two phenomena which have conflicting needs and requirements.

Good practice examples for green enterprises

Name: Excelixi⁶⁸: Center of Sustainable Entrepreneurship Piraeus Bank Group

Description: The project was founded in January 2013 with main aim to support the sustainable entrepreneurship in Greece. It provides added-value services to the customers, effective pooling on the know-how of Piraeus Group as well as it supports synergies and develops partnerships with companies, institutions and initiatives that align with its mission and principles. The main areas of work are green businesses, contemporary rural development, electronic business, entrepreneurship and innovation and tourism. Excelixi initiative provides the customers with integrated solutions which will contribute to the sustainable development of their business activity, connects them with a large financial group with proven orientation towards the active support of sustainable entrepreneurship and growth.

Name: Solmeya⁶⁹

Description: Solmeya is a hybrid AgriBiotech Company intersecting with CleanTech, Biotech and Agriculture. It produces more efficiently carbon neutral plant-based protein isolates and oils for food, nutraceuticals and feed producers through the IP protected "hybrid vertical microalgae farming method". Solmeya has set out a regional systematic solution aligned with the five universal circular economy policy goals providing a framework for national governments and policy makers as well as to citizens. Solmeya is working on 9 out of 17 SDGs adjusting all its activities to a bio circular economy transition model. Solmeya has been awarded as Startup of the year 2020 and won the award of "Financial Sustainability".

Name: Aegean Cargo Sailing⁷⁰

Description: Aegean Cargo Sailing is running a project implemented by Aegean Sails and supported by the Green Fund. It is a piloting project about sea transportation with wind and electric usage. The project is targeting the transportation between the islands both for products and passengers, using only ecological means of power. The project is suggesting a new, innovative and sustainable model of transportation which will be adjusted in the requirements of the fight against climate change and environmental protection. At the same time the project is highlighting the lack of intercessory connection between islands and especially between those that didn't have regular connections.

⁶⁸ <http://www.excelixi.org/>

⁶⁹ <https://solmeya.com/>

⁷⁰ <https://aegeancargosailing.org/greenfund/>

Good practice examples for educational resources

Name: Aegean Startups⁷¹

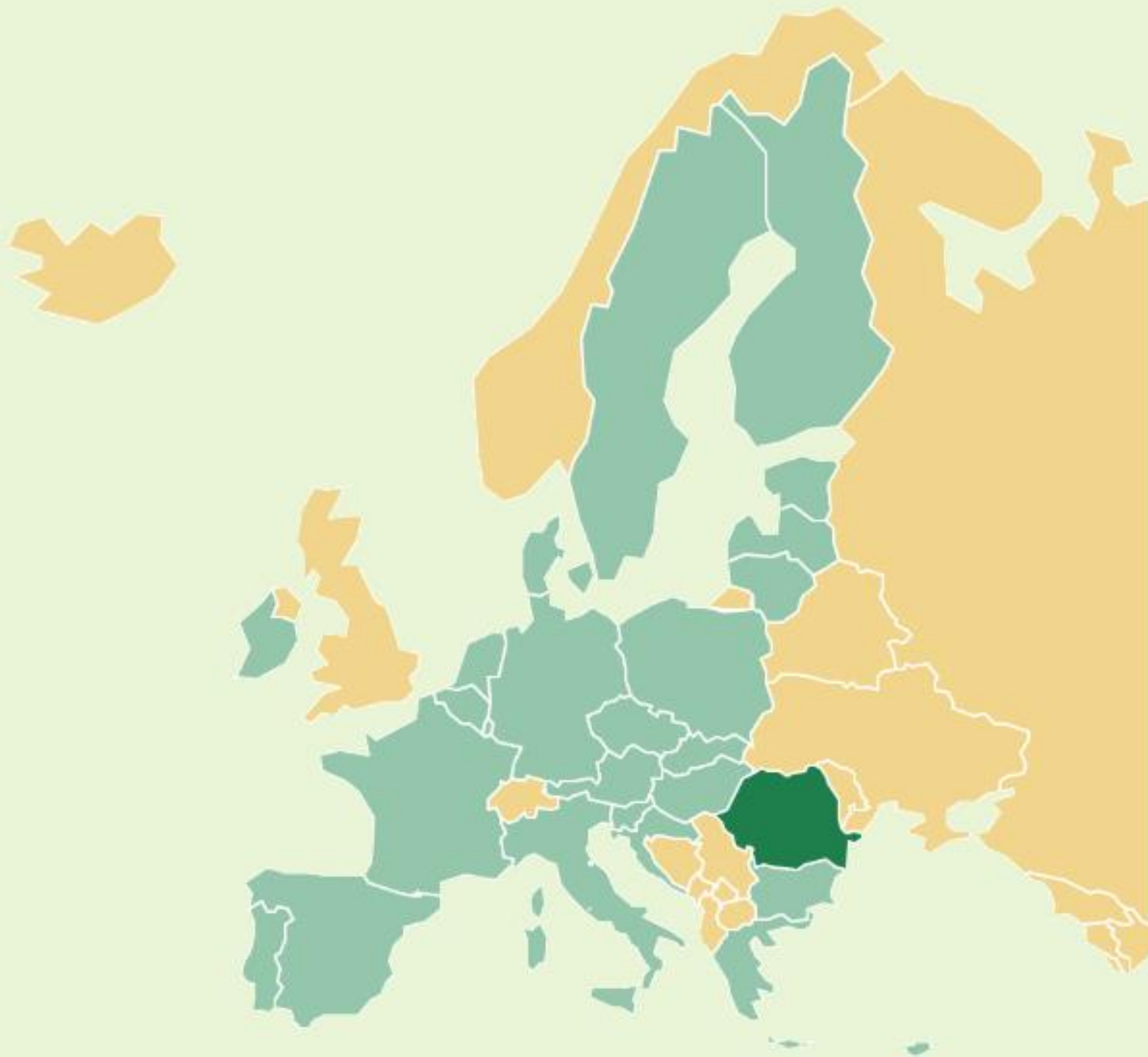
This is an educational curriculum designed in the framework of the lesson of Entrepreneurship in the University of Aegean under the program "Education and Lifelong learning" which is funded by the European Union. The program is focusing on Entrepreneurship and has 2 specified lessons about "Green Entrepreneurship" and "Environment and Entrepreneurship: public policies for supporting the business actions". This educational program is part of a platform which fosters innovative ideas for upcoming businesses with social impact. The source is open for students, teachers and organizations interested in the topic. The educational materials are innovative since it has as a starting point the demands of the businesses and their leaders. It worth mentioning that this educational material provides a step-by step methodology on how to develop sustainable entrepreneurial projects.

Name: Green Entrepreneurship: Educational Materials for the Lifelong learning centers⁷²

These educational materials are promoting the sustainable development and green entrepreneurship in the framework of environmental management and entrepreneurship. The main goal of this package is to create a better understanding for the students about sustainable development and entrepreneurship, its implementation and opportunities for development. The document is focusing both in the theoretical learning as well as in the business planning and integration of environmental actions methodology.

⁷¹ <https://aegean-startups.gr/vivliothiki/#>

⁷² <https://kentradiaviou.gr/wp-content/uploads/2019/07/1.7.pdf>



Green Entrepreneurship in ROMANIA

Unfortunately, the juridical situation for green/sustainable entrepreneurship is not too developed in Romania. Whatever sources there are available mainly refer to entrepreneurship generally speaking, but there aren't too many sources directly linked to sustainable entrepreneurship. However, there are a lot of initiatives and some old legislations related to our main topic.

There is the National Legislation regarding the Energy performance of Buildings, written in 2005, enforced however in 2007. The law regulates area such as the general framework of the methodology for the calculation of energy performance of buildings, the application of several minimum requirements on both the already existing buildings and the renovated ones, the energy

certification of buildings and the inspection and assessment of boilers and heating/cooling systems. Basically, all buildings should follow a standard or a minimum requirement of energy performance, consumption and provision, aspect that should be taken into consideration by the new entrepreneurs, as well as of the old ones.

There also exists Romania's SUSTAINABLE DEVELOPMENT Strategy for 2030, which is targeting the 17 goals by United Nations, amongst with implementation and monitoring of the interdepartmental committee for sustainable development, coalition for sustainable development and many more. To be more precise, this strategy focuses more on what will be done, on what opportunities can be implemented and the methodology behind. However, it is not addressed directly to entrepreneurs.

Romania lacks information when it comes to juridical side targeted towards sustainable/green entrepreneurship.

Training on green entrepreneurship education

Firstly, there is a research conducted by the UE FISCDI (Unitatea Executivă Pentru Finanțarea Invatamantului Superior, A Cercetării Dezvoltării Si Inovării)⁷³ which mainly focuses on entrepreneurship development, doing a study analysis of the Romanian entrepreneurial ecosystem and formulates a series of recommendations aiming to boost its performance in innovation and sustainability. The study brings together the recommendations of the country reports (e.g. GEDI, 2020, PSF 2017) and those formulated by the participants into the ecosystem. In this way, the entrepreneurial ecosystem is viewed both from the outside, compared to other ecosystems, and from the inside, as understood by entrepreneurs, innovators, business consultants, researchers or policy makers. It contributes to the Sustainable entrepreneurship education.

There are many more papers like the above mentioned one, all with educational purposes, to which we can add the raising awareness goal, spreading information and teaching the population. As a concrete example there is the Sustainable Entrepreneurship in the Romanian Sports Industry research conducted by The Bucharest University of Economic Studies, Bucharest, Romania⁷⁴. This paper targets the sustainable side of entrepreneurship through sports industry and also contains an introductory part where there is given a context, the country's reality is being presented and it has a strong educational purpose.

⁷³ <https://uefiscdi.gov.ro/resource-825742-sustainability-and-innovation-in-the-romanian-entrepreneurial-ec.pdf>

⁷⁴ <https://sciendo.com/pdf/10.2478/picbe-2019-0057>

There is another project developed by Metodica⁷⁵, an agency dedicated to the university studies and field. The project aimed to develop the entrepreneurial skills of people aged 18-35 in the north-west and west regions, who wanted to develop an independent activity by setting up new businesses (subsidized after drawing up feasible and viable business plans) in order to sustainably increase the employment rate on the labor market. It got financed by POS DRU 2007-2013 Axa3, DMI 3.1, targeting mainly the north-west and west regions of Romania. Around 60 people have been helped and around 20 start-ups have been monitored.

Methodology in green entrepreneurship training

The first main methodology strategy used was the essay structure, followed up by a clear contents page. Since there is not a training itself conducted, the paper offers all the information that the institute deemed important enough to be included.

For the second one, it applies the same situation from the first one. Unfortunately, those not being training courses themselves, the methodology is quite restrictive and overused in Romania. It follows the old methodology ways that are always used for essays, research papers or any academic oriented paper.

For the third one, a good part of the methodology was carried under the form of questionnaire, in order to get to the final results, followed-up by focus groups, discussions and groups being created.

For the last example, the methodology used was based on direct consultancies with the beneficiaries of the project, followed-up by seminars targeting specific topics, financial consultancies and offering support for the target group when it comes to starting up the businesses.

Good practice examples for green enterprises

EcoTree⁷⁶:

EcoTree, the first online platform that brings together waste generators and waste collectors in order to increase the recycling rate in Romania and improve this process, is functional. The start-up, developed by four young entrepreneurs, comes with a new concept in the field of recycling: the platform created by them is an aggregator of supply and demand.

In the EcoTree platform, generators with recycling needs can more easily identify suppliers: collection companies, recyclers, sanitation workers, waste sorting centres, NGOs, in order to

⁷⁵ <https://www.metodica.ro/proiect-posdru-antreprenoriat-sustenabil>

⁷⁶ <https://ecotree.ro/en/>

identify the most appropriate solution for their company and the waste management needs they have.

Additionally, the platform provides a framework for special tenders, while also digitizing the process of recycling and submitting the necessary legal documentation.

EcoTree gives the ability to buy, sell and trade any solid waste from anywhere in the world. Their mission as a company is to take recycling to 100% and to make it easy, valuable and fun. They facilitate the direct contact of all market players and their vision opens a new era of recycling.

Target group: Consumers (individuals, households, MSMEs and large firms, NGOs, public institutions & spaces, schools, hospitals); Waste managers/ suppliers (recycling firms, WtE plants, waste utilities, makers, repairers, aggregators)

Description: EcoTree managed to intermediate more than 1000 tons of waste in the platform, between January and October 2021. The recycling in Romania and Europe is still at very low levels and has a significant impact on greenhouse gas emissions generated by different companies and industries. The European Commission "Fit for 55" sets the foundation for 0 net emissions and EcoTree is well-positioned to offer a B2B SaaS platform for waste management transactions and tracking as well for the greenhouse gas emission calculation and monitoring resulting from waste management activities.

FOLDO⁷⁷ was created based on the idea that simple is better: simple material, simple construction, simple assembly. The products are designed and made entirely in Romania, made of paper and cardboard, FSC® certified. In 98% of cases, FOLDO products are sold disassembled and do not require soldering or other assembly tools.

FOLDO develops products in various categories: home or office furniture, lighting fixtures, decorations or toys, store and shop windows, exhibition stands, theater and film sets. The finished products look and feel very good because of the good quality of the raw material.

Target group: Interior designers, home-owners (home and decorations), Corporations (office furniture, lighting fixtures); Parents with children between the ages of 0 and 18 (toys)

Description: The investment until 2018 amounts to about 250,000 euros. In 2017 the company had a turnover of 120,000 euros, the furniture workshop running a business of 80,000 euros. In 2019 the company estimates a turnover of about 200,000 euros, 180,000 euros being only the

⁷⁷ <https://www.foldo.ro/?cn-reloaded=1>

business of the Foldo workshop⁷⁸. The founder of the workshop estimates that the business will grow in the next four to five years, as they have invested in equipment to become a furniture manufacturer.

"School of Green Entrepreneurship" (2018, 2019)

Sustainable development of the planet is the main concern of the United Nations until 2030 and calls on all countries to act on social, economic and environmental issues. In this scheme, education plays a key role because we need young people who are able to adapt to the new changes and also generate positive changes in the 3 sectors.

In 2018 New Horizons Foundation together with Vitas Romania have set the mission of helping to achieve the goals of sustainable development by joining with IMPACT clubs and schools that want to use the Service Learning method, the largest movement in the world in which "no one is left behind".

In order to contribute to the achievement of the objectives related to economic development and environmental protection, they have created a new context of sustainable learning and community development, by launching the project "School of Green Entrepreneurship".

A green entrepreneurship project is a Service Learning project. The project follows the steps of a Service Learning project and aims, in addition, to exercise entrepreneurial skills.

The aim of this project was to develop the entrepreneurial spirit of students for the responsible and creative use of local natural and / or cultural resources. The Ministry of National Education recognized the importance of entrepreneurship education and introduced entrepreneurship as a subject in Romanian schools. However, in the classroom, learning is based only on theory and hypothetical situations (only specialized high schools make "exercise companies").

Thus, in order to develop entrepreneurial skills among young people, with a positive impact on the economy and the environment, the project aimed to:

Train a 3-day residential course, 34 teachers from 17 schools, to use the Service Learning method and the Lean Canvas business plan tool to facilitate real learning experiences – the Detailed description of practice:

Trained teachers have facilitated 4 1.5-hour workshops with 20 students each (from the IMPACT club, from various school-level initiative groups) to build 17 feasible business plans. For the

⁷⁸ <https://www.wall-street.ro/articol/Companii/237222/foldo-afacerea-romaneasca-cu-mobilier-si-decoratiuni-din-carton-de-200-000-de-euro-care-se-vand-in-japonia-si-statele-unite.html#gref>

realization of the business plans, the initiative groups have received feedback and mentoring from the Vitas and New Horizons staff;

Of the 17 business plans, the best 12 have benefited from a funding of 800 lei to put their ideas into practice.

Between March and June 2019, the 12 initiative groups have implemented their business ideas.

Young people's entrepreneurship projects aimed to create a positive impact, together with the community and for the community, and the 300 students (out of 17 schools) had to think of businesses that use local resources creatively and responsibly.

Students were the ones who decided the idea, they have also been the ones who have implemented it, with the help of trained teachers, and have learned practically how to make a budget, a marketing strategy, communication materials, have designed products and services, have solved unforeseen situations and have made decisions.

Target group: This project is addressed to schools in the South-West Center region of Romania, which have a community initiative group for young people (middle school or high school, minimum 12-15 students / group) and are partners of the New Horizons Foundation or VITAS Romania. Nine counties targeted: Alba, Arad, Bihor, Caraş-Severin, Gorj, Hunedoara, Mehedinţi, Sibiu, Timiş with 31 eligible schools motivated to develop entrepreneurial skills among young people and who take part in all stages of the project.

34 teachers from 17 schools will be trained during a 3-day residential course to use the Service Learning method and the Lean Canvas business plan tool to facilitate real learning experiences.

Trained teachers will facilitate 4 x 1.5-hour workshops with 20 students each (from the IMPACT club, from various school-level initiative groups) to build 17 feasible business plans.

Description: 34 teachers from 17 schools (2 teachers / school) benefited from a 3-day residential training, in which they have learned to use the business planning tool - Lean Canvas;

The 17 feasible business plans of the students have earned 800 lei to implement green business ideas; Some of the project have received constant income for the implementation of future Service Learning projects; They received feedback and mentoring from VITAS Romania and the New Horizons Foundation;

Strategies for sustainable business. Non-financial reporting requirements for business.” (2021)⁷⁹

Adult training course, addressed to employees or collaborators of for-profit organizations in Romania. Course duration and organization:

The course lasts 30 hours, of which:

- 10 hours will take place on the Zoom platform, organized in modules of 1-2 hours / week.
- 20 hours will run independently, on the Moodle platform, when the student has time available, according to a weekly schedule.

The content of the course was developed following the National Strategy for the sustainable development of Romania 2030, the objectives of sustainable development according to the UN Agenda 2030 and compliance with the normative acts OMFP 1938/2016 and the European directive 2014/95 / EU.

The course contains modules for studying business sustainability, economic performance in sustainable business, environmental issues and how business affects the environment ("green business", circular economy), social performance (sustainable education, ethics and integrity, human rights), etc. The content of these modules is approached in the light of the objectives of the UN 2030 agenda and existing non-financial reporting standards. Case studies on non-financial reporting will be carried out in accordance with Directive 2014/95 / EU.

Aims and objectives

- Understanding the complex framework in which the business environment evolves: People, Planet and Profit and including the social and environmental dimensions.
- Formation of basic notions on non-financial reporting of organizations.
- Forming the capacity for understanding, critical discussion and future projection on the circular economy and the green economy.
- Formation of basic notions on sustainable business strategies and their implementation in the business plan.

Target group:

Adult learning networks & organizations: employees of companies, national companies, public institutions, territorial and administrative units, scientific research institutes, national agencies,

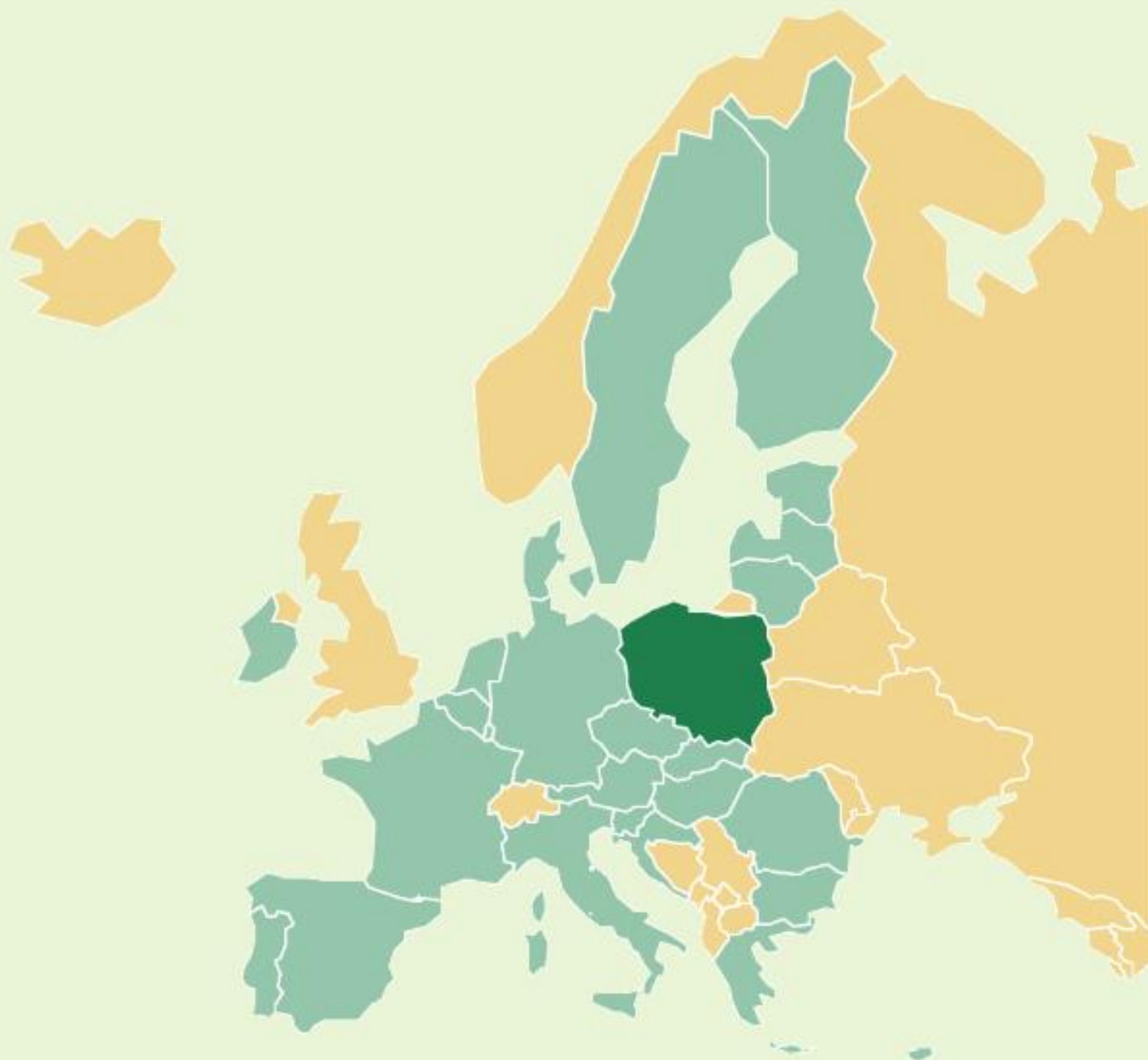
⁷⁹ <https://epale.ec.europa.eu/en/content/strategii-pentru-afaceri-sustenabile-cerinte-privind-raportarea-nefinanciara-afacerilor>

associations, foundations, authorized natural persons, company administrators, management / members of associations, foundations.

Results/outcomes described:

At the end of the course, participants will know:

- what are the three dimensions of sustainability and what is the relationship between them
- how to concretely apply the principles of sustainability in business.
- what are the business models that can change from a trivial business to a sustainable business.
- how to prepare a non-financial report for an organization and what it is useful for.
- steps to develop a business plan for a sustainable business model.



Green Entrepreneurship in POLAND

The Act on Environmental Protection.

The Act on Environmental Protection (Prawo Ochrony Środowiska⁸⁰) was adopted in April 2001, as a part of polish preparation to the EU accession which happened in May 2004. It incorporated a number of EU regulations and is being constantly updated ever since, as well as supplemented by a number of other regulations.

The main areas regulated by the act are: protection of the natural resources (air, soil, noise, electromagnetic fields, fossils, animals and plants, restrictions to the property use for the sake of

⁸⁰ <https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20010620627/U/D20010627Lj.pdf>

environment), counteracting the pollution (regulation on installations, substances, infrastructure, rules on issuing permits), failures (mainly industrial), financial and legal compliance (including fees for using the environment, emissions, and penalties), responsibility for the environment (civil, criminal, administrative), setting institutions of environmental protection and their financing, as well as basis on environmental protection policy and programmes, environmental protection in spatial planning and investments, education, research and promotion.

Due to the variety of the areas regulated by the law, the act created a number of opportunities for the “green entrepreneurship” – such as companies specializing in reports on the environmental impact assessments and mitigation of those, soil examination and remediation, noise mapping, education and many more.

Resource Efficiency. The main pillars for this area are:

- **The Act on Waste**⁸¹, transposing the Waste Framework Directive – WFD (originally dated 2008, with important amendments in 2018), introducing hierarchy of acting towards waste: with “reduce” and “reuse” on top of the pyramid, as the main approach, followed by recycle, recover and disposal at the very end.
- **The Act on used electric and electronic equipment**⁸², dated 2015, transposing the Waste of Electrical and Electronic Equipment – WEEE directive.
- **Single Use Plastics Directive** – SUP, dated 2019 – transposed to polish law through amendment of 5 legal acts, especially Act on obligations of entrepreneurs within the scope of managing some waste and on product fee (dated 2001). The regulation forces mechanisms of single-use plastics reduction, including banning some of those, introduces “extended producer’s responsibility” (including costs of collecting the waste, their transport and recycling, public infrastructure; costs of eco-education), packaging product fees, increasing recycling, selective collection and reporting, informing consumers and encouraging responsible choices.
- **Act on energy efficiency**⁸³, dated 2016 – which introduces a national goal of energy saving, envisaging a system of energy efficiency certificates and other tools.
- **Standards for buildings**, currently focusing on **energy efficiency** through Act on energy characteristics of buildings dated 2014 (transposing directive on energy characteristics of

⁸¹ <https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20130000021/U/D20130021Lj.pdf>

⁸² <https://www.gios.gov.pl/pl/gospodarka-odpadami/zuzyty-sprzet-elektryczny-i-elektroniczny>

⁸³ <https://www.ure.gov.pl/pl/urzed/informacje-ogolne/aktualnosci/9489,Jutro-wchodzi-w-zycie-nowelizacja-ustawy-o-efektywnosci-energetycznej.html>

buildings of 2010) foreseeing dates of net-zero consumption of new buildings, first for the public buildings and later on other buildings; as well as **Act on support for the retrofitting**⁸⁴ (2021), which sets a financial support mechanism for retrofitting and low-emission undertakings and regulates the central buildings-emission register.

The framework is especially important for green entrepreneurship in the areas of changes in the value chains and promoting circular economy - eg. innovation towards biodegradable materials, low resource consumption, upstreaming, durability and energy efficiency of products, passive housing and many more.

Energy, heat production and mobility.

While the fossil fuels are still the main sources of energy, the main regulations supporting transformation towards clean energy and heat are:

- Act on **Renewable Energy Sources**, adopted in 2015, with many stormy changes – regulates which technologies are considered as RES, what are the frameworks supporting them (firstly certificates, later on the auction system), as well as requirements and definitions for important concepts of prosumerism and energy clusters.
- An important connected act is the so-called “distance act” / “10h act” – specialized **Act on investments in wind power plants**⁸⁵, adopted in 2016. Following a severe increase in taxation for windfarms, the act, has stopped growth of new on-shore windfarms in Poland and new entrepreneurship in that area. On the other hand, act on off-shore windfarms, dated 2020, created a framework and provided an important encouragement of investments towards this type of energy.
- **EU Emissions Trading System** (EU ETS) – introduced to polish legal system through the Act on the greenhouse gas emission allowance trading scheme (2015). It creates a carbon market, setting price towards CO2 emissions, hence grasping the external (environmental) costs of chosen parts of human activity. It encourages transformation of the industries towards clean energy.
- **Regional Anti-smog acts**⁸⁶, which are adopted by **regional** authorities on the basis of Environmental Protection Act, supported by national and local financial assistance. The main goal of those is to ensure change of heating systems towards less-polluting / renewables.

⁸⁴ <https://samorząd.pap.pl/kategoria/prawo/jednolity-tekst-ustawy-o-wspieraniu-termomodernizacji-i-remontow-oraz-o-centralnej>

⁸⁵ <https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20160000961/U/D20160961Lj.pdf>

⁸⁶ <https://polskialarmsmogowy.pl/jak-wygrac-ze-smogiem/uchwaly-antysmogowe/>

- **Electromobility and alternative fuels act**⁸⁷ (2018, amended 2021) - intended to encourage the public to use vehicles that use alternative fuels (with a focus on electric vehicles) by a set of benefits, to make charging or refueling infrastructure for such vehicles more widespread, and to regulate the market for these fuels in transport. It refers also to hydrogen, liquid biofuels, and other alternative fuels.

This area of regulation contributes significantly to both the green industry (eg. windfarms, solar farms, new mobility), as well as smaller servicing companies and startups, focusing eg. new technologies (eg. PV panels integrated with pergolas, roofs, and many more), growth of variety and quality of heat pump systems, leveraging on digitalisation and AI (eg. systems supporting best placing of PV instalations).

Corporate environmental reporting, carbon footprint.

- **Non-Financial Reporting** Directive - NFRD (2014), transposed through the Act on Accounting – sets rules on non-financial reporting of largest (more than 500 employees) public-interest companies. This means an obligation to disclose information on the way they operate and manage social and environmental challenges and with what results. This helps investors, civil society organisations, consumers, policy makers and other stakeholders to evaluate the non-financial performance of large companies and encourages these companies to develop a responsible approach to business.
- **Corporate Sustainability Reporting** Directive CSRD – even though it was not yet adopted, the directive is already having a big impact on the companies. It will amend the NFRD by broadening of the scope (both public and private, also smaller in size) of companies obliged to environmental, social and corporate governance reporting. What is also worth to mention, in Polish case a factor which is accelerating the green transformation are the requirements of the German market (approx. 30% of Polish export), where since 2023 the companies will be obliged to check their value chains and ensure ESG quality of those.
- The EU **Taxonomy** (2020), which as a regulation binds directly the EU Members – it aims at unifying the definitions, setting clear criteria for sustainability, fighting greenwashing and supporting investors towards more aware and sustainable investment decisions. It is foreseen as a booster for the financial flows towards sustainability and decarbonization of Europe by 2050.

⁸⁷ <https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20180000317/U/D20180317Lj.pdf>

The abovementioned regulations created new markets and encouraged growth of companies and tools specialized in ESG reporting, as well as supporting transformations of the business, such as reduction of the carbon footprint (creating the strategy, taking exact steps, offsetting, etc.).

Training and Methodology on green entrepreneurship education

High school education

Requirements for school curriculum is regulated by the Ministry of Education in a special ordinance called **the core curriculum** (*podstawa programowa*). It regulates the minimal basis of topics, skills and knowledge teachers of each subject are required to teach students. The core curriculum lists for each school subject the competencies (knowledge, skills, attitudes) each student should have upon graduation. **Teachers are allowed to cover additional topics in their classes freely** (provided they document them), but they are required to cover all the topics in the core curriculum. This core curriculum is updated by the Ministry of Education every few years. Despite best efforts from various institutions to change that, there is **very little non-formal education in polish schools**, especially among teachers.

Since 2018 core curriculum is centred around developing **8 Key Competencies⁸⁸ (as defined by the European Commission)** and teachers are slowly learning that developing these competencies (in all its dimensions – attitudes, skills and knowledge) is increasingly more important than the knowledge. There are many teachers, especially younger ones, who are actively expanding the curriculum and introducing new projects to their schools.

Teachers are generally **open to cooperation with NGOs and they are the ones who introduce new topics, as well as non-formal education methods to schools**. Among those, there are topics related to understanding causes and implications of the climate change, limitations to growth, sustainable development, circular economy and green entrepreneurship. In such a case, the training materials normally include modern approaches, engaging, provoking students' collaboration and making sense of various observations and searching for possible solutions. The aim is to provide knowledge, skills and capabilities needed to identify opportunities, design and implement solutions focused on the current challenges.

Introduction to entrepreneurship⁸⁹ is an obligatory course in the curriculum of public high schools. It focuses mainly on aspects of setting up a company, tax reporting or applying for a job. In general, it is more technical and not well embedded in the current social and economic challenges – especially the green transformation, circularity and sustainable development.

⁸⁸ <https://www.youthpass.eu/en/help/faqs/keycompetences/>

⁸⁹ <https://podstawaprogramowa.pl/Liceum-technikum/Podstawy-przedsiębiorczości>

However, the students' perspectives, skills and capabilities can be broadened through school's collaboration with NGOs, mentors from business and taking part in specific projects financed by external grants (eg. EU, EEA).

The paradigm, in which protection of the environment is an obstacle to the economic development has several consequences. Among them, one of the crucial ones is existence of "siloes" in terms of education and organizational one, a lack of holistic approach and benefits which could be found there.

While awareness on the environmental and social challenges is growing, alongside with (growing more slowly) readiness to make changes to our systems, the chances and benefits coming from those – especially economic ones – are not yet so much valued, or exist rather in a fragmented way - hence seem to be rather "exception" to the rule and is organized as an "extra" rather than the core of education from the earliest years.

University education

The programs which are offered focus mainly on **specific sectors**, relevant for green entrepreneurship eg.:

- Renewable energy and waste management; management and production engineering; built environment; spatial planning; environmental engineering; engineering and water management available on the University of Wrocław. As public studies (bachelor or masters), they are free of charge for polish citizens and may be subject for fees for foreigners.
- Chemistry of a sustainable development at Jagiellonian University. As public studies (bachelor or masters), they are free of charge for polish citizens and may be subject for fees for foreigners.

There are also programs including sustainable development **in the strategy and operations of the company**, eg.:

- Post-graduate studies "Sustainable development of a company" offered by **University of Science and Technology (AGH) in Kraków**, with a cost of 1 200 EUR for 2 semesters.
 - Post-graduate studies "CSR. Sustainable development goals in the strategy of a company" at **Koźmiński University in Warsaw**, with a cost of 1 450-1 500 EUR for 2 semesters.
 - Post-graduate studies "CSR Manager" offered by the **Collegium Civitas** private university in Warsaw with a cost of 1 300 EUR a year.
- 2.3. Green entrepreneurship beyond the formal education.**

What is worth observing, in most cases those studies are held by the **Environmental Departments – not those of Entrepreneurship or Technology**. Thus they **educate**

specialist in their fields, but not green entrepreneurs. The new type of entrepreneurship itself, technological transformation and innovations are not yet broadly embedded as answers to the environmental and societal challenges.

Green entrepreneurship beyond the formal education

Supplementary knowledge and skills for the practitioners - employees working in specific sectors, as well as the broader public is happening through a number of streams. They can be organized in a form of trainings, seminars, webinars, conferences, workshops, as well as knowledge bases. Due to COVID-19 pandemic many of those became available on-line.

What is important to note, is that most of them focus on the awareness raising and introducing changes to the existing business (especially with regards to **changes forced by new regulations**). Trainings for people who would like to change their life and set up a new green business from the scratch – hence covering at least basic, but cross-sectoral knowledge and understanding in the areas such as: environment, entrepreneurship, management, business development, marketing and promotion are scarce. Similarly as assistance in **identifying the market niches**.

Organisations providing the green entrepreneurship trainings as such are rather scarce. They depend on external funding, which comes from foreign sources (such as EU or EEA grants).

Organizations supporting environmental education of entrepreneurs

- **Polish Agency of Entrepreneurship (PARP)**⁹⁰ – which educates through events (eg. seminars), prepared materials (reports, others), dedicated trainings (eg. on energy efficiency), which are free of charge.
- **UNEP/GRID Warsaw Center** ⁹¹– which runs educational projects (eg. “Climate Conversations” series), campaigns (eg. “Make a present to yourself and to the environment”) and collaborates directly with business (eg. “Educational eco-actions”) – costs of the latter ones are negotiated with the companies interested in such a collaboration.
- **UN Global Compact Poland**⁹² – education through reports (eg. „The future is green and inclusive” – Making Global Goals Local Business), which are free of charge.
- EIT Climate-KIC⁹³ - supports green entrepreneurship in a number of ways: education and capability building (eg. Climathon – a hackathon for climate, Launchpad, the Journey,

⁹⁰ <https://www.parp.gov.pl/>

⁹¹ <https://www.gridw.pl/>

⁹² <https://ungc.org.pl/>

⁹³ <https://poland.climate-kic.org/>

Pioneers into Practice – exchange programme for professionals, open trainings and making available recordings), as well as capability building with its partners and within specific projects. Most of those programmes are free of charge, though a part is strictly targeted or with relatively high requirements during the recruitment process.

- **Industry organizations** – Those are also an important source supporting skills, knowledge and capabilities needed in the areas of green entrepreneurship, mainly through conferences, seminars and dedicated trainings. The access is often limited to members of branch associations and/or are relatively expensive, eg. approx. 450- 900 EUR for a 2-day conference or seminar. Examples of those are eg. PSEW 2022 – a conference of Polish Wind Energy Association⁹⁴ or Operation & Maintenance conference of the Polish Photovoltaic Association (O&M Conference).
- **Education organized by specialized entities and umbrella initiatives** – Those aim at delivering knowledge, best practices, as well as growing both: peer pressure (you better be on board if you want to keep the good image) and collaboration between companies towards common goals which are defined as transformation towards sustainability or specific part within that concept.

One of examples can be the Campaign “17 Goals”⁹⁵, referring to the United Nations’ Agenda 2030. It was started in 2017 by CSR Consulting company and gathers 712 companies. Another example is “Partnership for Climate”⁹⁶, organized by the Municipality of Warsaw. The initiative forms a platform for innovative educational and promotional activities related to climate change. It is also a forum for collaboration between the administration and business, aiming at responding to concrete challenges of the city. The Platform organizes various types of events of diverse nature, including conferences, debates, happenings, exhibitions, and other events.

Good practice examples for green enterprises

AIRLY – CHEAP SENSORS, MOBILE APP WITH REAL-TIME DATA, FORECASTS ON AIR POLLUTION⁹⁷

Description: The story of Airly begins in 2016, when fresh graduates of the AGH University of Science and Technology from Cracow wanted to prepare for a winter marathon in Cracow. However, the smog in the city turned out to be an obstacle to their training. That's when the idea

⁹⁴ <http://psew.pl/en/>

⁹⁵ <https://kampania17celow.pl/>

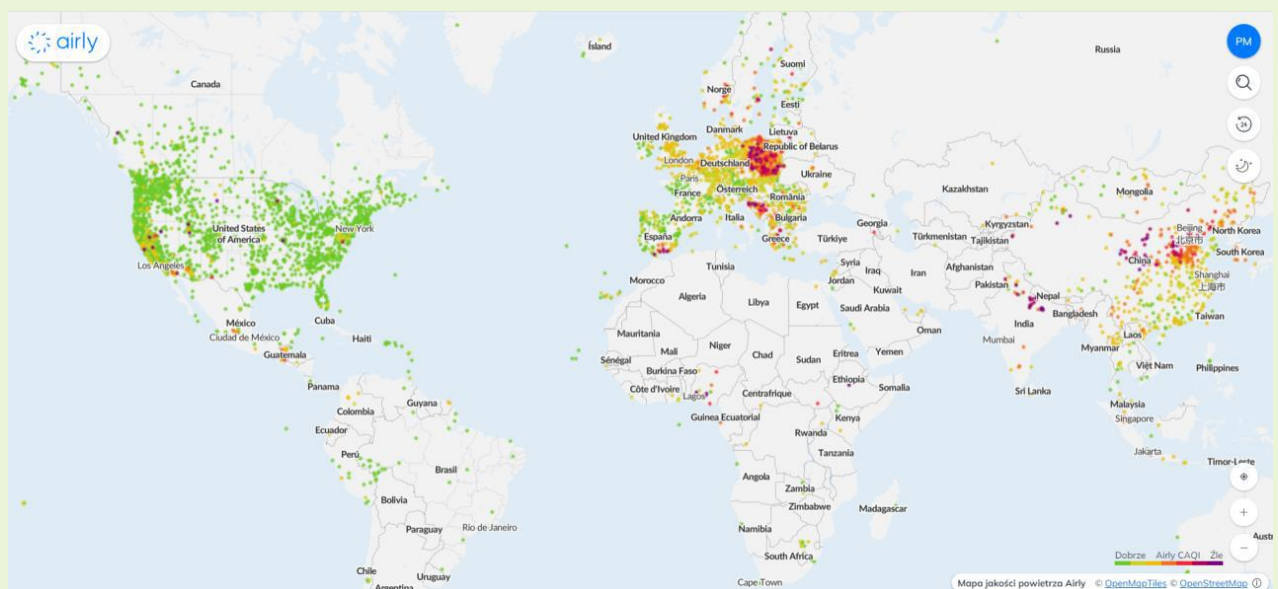
⁹⁶ <https://eko.um.warszawa.pl/-/partnerstwo-dla-klimatu>

⁹⁷ <https://airly.org/en/>

of creating a dense network of sensors that would provide real-time information about the air quality in a specific place was born. The project was successfully completed, and the team collected funds to build 100 air quality sensors. The idea perfectly matched the needs of the citizens of Cracow, who lacked more accurate data on air quality, and thanks to Airly, they had access to it via an online map and a mobile application. The devices constructed by the inventors were extremely much cheaper than those from the national grid - approx. 1000 zł compared with approx. 250 000 zł + costs of maintenance and servicing experts which together amounted at approx. 1 000 000 zł. The cheap equipment brought democratization of air pollution data – both in terms of places covered by measurements, as well as data accessibility. Airly contributes to the worldwide revolution in air quality measurement that continues to this day.

Target Groups: citizens, local governments.

Results & Outcomes: Airly has been able to build a network of over 4,000 of its own sensors in 30 countries. Airly provides real-time air pollution data to millions of people around the world, very rapidly improving its data models, equipment and reliability of data. It also cooperates with more than 400 municipalities and many cities, such as Athens, Berlin, Jakarta, Krakow or London. The accessibility to air pollution data through a mobile app or website had a catalytic effect on the communities and governments.



Airly's system reach. Source: <https://airly.org/map/pl/>

IKEA (INGKA GROUP) – RENEWABLE PORTFOLIO⁹⁸

Description: Ikea is a worldwide furniture producer, originating from Sweden, with a strategy proudly named “People & Planet Positive”. Since years, within the core of its strategy is both reducing its own environmental footprint, as well as providing innovative products and services to its clients. This is also the case of the Polish Branch, where Ikea’s has its second biggest renewable energy portfolio in the World, encompassing windfarms (80 turbines which generate power equalling 200 000 households’ energy consumption), photovoltaic farms and roof-installations, heating pumps. The company engages also in a variety of CSR activities. Moreover, Ikea offers to its clients photovoltaic panels at a competitive price, accompanied by the installation service by Polish company FOTON Technik.

In case of City of Warsaw – Ingka Group supported an interesting undertaking, organized by a local Centre of Culture. This unique collaboration, where the Corporation rents renewed store space resembling a gallery at symbolic 1 PLN/month to the Centre of Culture of Wola District of Warsaw. The Culture Centre organizes here a Free-sharing store (“Współdzielnik”), where people can bring clothes or small equipment that they don’t need anymore and free of charge choose something else. The place organizes also workshops, equipping in skills and capabilities needed to live in a more circular way, as well as runs a “sanatorium” for plants. The strategic location and exposition of the store within one of the biggest shopping malls in Warsaw makes the circularity at the very reach of the hand of each citizens, provocatively in the “temple of consumerism”.

Target Groups: Ikea itself (own consumption), clients, broad public.

Results & Outcomes: Due to intensive investments in renewable energy sources its assets already produce more green energy than is needed for its own needs. Moreover, revolutionizing the market by launching sales of complex service related to photovoltaic energy sources make the technology more accessible – both physically (in the store) as well as mentally (becomes treated more as a normal house „furniture” than an expensive and hard to imagine investment).

CLIMATE STRATEGIES POLAND – BOOSTING “CLIMATE COMPETITIVENESS”⁹⁹

Description: The **Foundation Climate Strategies Poland** was created in May 2020, as a consultancy with aims to educate on the environmental and carbon footprint, as well as support industry, businesses, administration in their transformations to drastically reduce/eliminate those. The concrete projects of the foundation are organized around:

⁹⁸ <https://www.ikea.com/pl/pl/this-is-ikea/about-ikea/> ; <https://www.ikea.com/pl/pl/clean-energy/#/>

⁹⁹ <https://climatestrategiespoland.pl/>

- 1) CO2 emissions accounting, which forms a starting point for planning pro-climate changes.
- 2) Preparation of strategies to reduce carbon and environmental footprint, support in implementation and monitoring.
- 3) Education – organizing trainings, conferences, debates, providing expert knowledge and concrete arguments (especially economic ones) and engagement – of citizens, employees, narratives around pro-climate actions.

Target Groups: Industry, business, administration.

Results & Outcomes: The foundation gradually grows its track record and recognition, while delivering projects to their client. The biggest success so far was due to introduction of the term “climate competitiveness” to polish market. The report “Better late than never. Reducing carbon footprint and climate competitiveness of Polish companies” echoed very strongly in media (cover-page of popular magazine, big interviews in mainstream media, as well as expert ones). It was followed by a webinar explaining the basic concepts of the report which has gathered broad audience and was many times shared and quoted. For the first time in Poland the reasons of transformation towards climate neutrality were so broadly and in an accessible form explained not only by environment, health and future generations, but with arguments of economic nature, concrete numbers and implications already in the nearest couple of years.

Good practice examples for educational resources

PRZEDSIĘBIORCZA MŁODZIEŻ DLA ZIELONEJ EUROPY - ENTREPRENEURIAL YOUTH FOR A GREEN EUROPE¹⁰⁰

Description: The international project Entrepreneurial Youth for a Green Europe aims to develop an innovative model for teaching young people to become entrepreneurs in environmentally friendly fields. It benefits from funding worth €222,596 from Iceland, Liechtenstein and Norway through the EEA funds, as well as national fundings. Within the project, young people are learning about good business practices in the field of green entrepreneurship, i.e. activities that reduce the consumption of renewable resources to the limits of their reproduction, consume non-renewable resources on a scale that allows for their gradual replacement, eliminate hazardous substances from economic processes, reduce pollutant emissions, restore and protect biodiversity at local and national levels. Young people are learning how these solutions bring tangible financial benefits to companies, as well as incalculable ones - in terms of corporate social responsibility. Pupils and

¹⁰⁰ <https://greeneurope.uni.lodz.pl/>

students are also involved in **the development of a holistic concept of teaching in the field of "green entrepreneurship"** at the level of secondary school and then university, as well as in the support of formal education through cooperation with the third sector. Moreover, schools and universities are provided with ready-to-use tools for use in educational programs on entrepreneurship and environmental protection. The activity is implemented between May 2020 and May 2022. The partners of the projects are: Ad Meritum Foundation from Warsaw (coordinator), city of Konin and Eugeniusz Kwiatkowski's Construction and Vocational Education School Complex in Konin, City of Kielce and School Complex no. 3 in Kielce, University of Łódź, NORTH Consulting from Iceland, Newschool from Norway. The project encompasses study visits in each of the partnering countries, content and networking-oriented meetings organized within the project, a city game for the youth.

Target groups: young people between the ages of 16 and 24 as future entrepreneurs and teachers, lecturers and trainers of entrepreneurship.

Results/outcomes: The scope of the project addresses well the existing niche. The model and tools which are to be developed soon sound very promising. Nevertheless, the results of this pioneering project would require more attention towards dissemination and scaling-up.

Hint: A good idea would be to gain attention during conferences, partnering with bigger networks active in the area of green entrepreneurship as well as authorities, such as ministry of development, ministry of climate, ministry of education.

GDYNIA DESIGN DAYS FESTIVAL¹⁰¹

Description: "Gdynia Design Days is the top Baltic design festival. Each edition is a pretext to raise issues related to broadly understood design in the context of changes occurring in our environment. The exhibitions, workshops, lectures and discussions we propose touch upon such topics as: technology, process design, ecology, design, fashion, architecture, urban development or craft. In our activity we combine the design industry with business. Gdynia Design Days is an event for professionals and all those who are fascinated with design and are curious about the changes occurring in dynamically developing societies" – states the festival's website.

In 2021, the annual Gdynia Design Days festival was held under the theme **"*solidarity"**. The festival evolved from exhibitions, elite talks and the interior design and furniture industry into a much broader focus, setting itself the task of highlighting challenges and trends, and inspiring profound social and business change: it was "the fourteenth edition about design and the first about co-responsibility". In keeping with the spirit of the festival, the COVID-19 pandemic and the

¹⁰¹ <https://www.gdyniadesigndays.eu/> ; <https://2021.gdyniadesigndays.eu/biznes>

crisis it caused became an opportunity for a **positive "rebound"**. Imagining multiple scenarios of the future (foresight) and coping in a world of constant change and uncertainty, the city as a microscale of planetary challenges, the impossibility of continuous growth and the pursuit of a circular economy, ethical product design and manufacturing, and "self-reliant solidarity" (for the sake of others and the environment) – became the main determinants of the festival. Among the festival's initiatives, it is worth noting the new edition of "**Design Talks Business**". *"It is an international platform for exchanging experiences, knowledge and contacts for design and business practitioners. The several-day event is attended by professionals - entrepreneurs and designers - who are looking for new tools and working methods with a view to creating innovative products and services. Since 2015, Design talks Business has prompted participants to revise existing assumptions and constantly observe real consumer needs. It draws attention to the ethical, social and environmental aspects of the business activities undertaken. Promotes creative work culture in organizations and companies. It initiates the creation of scenarios of the future, in which development is a team effort and profit involves entire communities. Design talks Business is a call to abandon old habits and make bold changes for the sake of a better tomorrow."* In the edition of 2021 among the activities there were: networking breakfast; inspirational presentations on changes in the business models and society – including new consumers' needs, how to make use of the change to create solutions of the future; practical workshops (such as: "Upstream innovation – creatively towards circularity" or "How to design a solidary organisation").

Target groups: Designers, entrepreneurs.

Results/outcomes: As Gdynia Design Days attracts more and more interest, also its messages gain on visibility and impact towards the awareness. The transformation of the festival – from a design festival towards a purpose-driven one is visible. The societal and environmental challenges, as well as trends which they entail and encourage are surfaced and accompanied by practical discussions, workshops inspiring solutions, as well as networking. Therefore, the festival educates thousands of participants and supports them with practical approaches and best practice sharing.

DOBRY PRZODEK – "THE GOOD ANCESTOR" COMMUNITY¹⁰²

Description: "The Good Ancestor" is a community of positive influence founded by Filip Dębowski, and relates to "The Good Ancestor. How to Think Long Term in a Short Term World" book by Roman Krznaric. Through workshops, programs, podcasts and articles, the community led by Filip help people and organizations to be good ancestors and ancestresses by motivating positive social and environmental impact. "The Good Ancestor" addresses topics such as: sustainability,

¹⁰² <https://www.dobryprzodek.pl/> ; <https://www.youtube.com/c/DobryPrzodek>

new/optimistic ecology, ethical technologies, (mental) well-being. The activities are focused around popularization of: cooperation across divisions/siloes, collectivism over ego, empathy, (critical) thinking. The tools used are podcasts on dedicated platforms, youtube, social media groups, where members of the community are sharing their reflections, observations, good practices.

Target groups: Experts, entrepreneurs, innovators from different spheres, activists. The group is unified in asking themselves the question “are we good ancestors?” and taking up activities in order to be able to answer “yes”.

Results/outcomes: The closed group which is represented on Facebook accounts for 821 people. It is a place for discussions, inspirations, but also mutual support in the concrete actions taken up by the members.

FIELD RESEARCH

Methodology

The second part of the research part of project Alliance for Green Entrepreneurship is field research regarding the existing tools and needs for support of green entrepreneurship education in each partner country. The output was elaborated during 6 months through a standard methodology for delivering research work, including the use of questionnaires, face-to-face interviews, and participative observation. Various activities were integrated to have the output produced:

First, part was the data collection

After creation of online questionnaire, information for field analysis was be gathered through 40 self-completion questionnaires by learners, professionals in the field and people involved in educational institutions in each country, face-to-face interviews between relevant fellow partners and observation done by the project promoters in their communities.

Second, the data categorization, processing, and analysis

All information collected was processed according to quantitative and qualitative analysis techniques, such as content comparative analysis, correlative analysis, and Khi-2 dependence tests relevant for executing this type of research. Results were carefully analysed and dressed in categories such as the legal social economy framework, the precise learning needs of target groups and stakeholders in terms of green entrepreneurship education. Categories were set up also for tools for implementation of entrepreneurial and lifelong learning in the field of green economy since they could differ from country to country and might not be used in the same way.

The interviews and questionnaires were conducted between March and September 2022 locally in the partner countries. During the data collection more than 20 face-to-face interviews were conducted with relevant respondents and 110 online surveys were received.

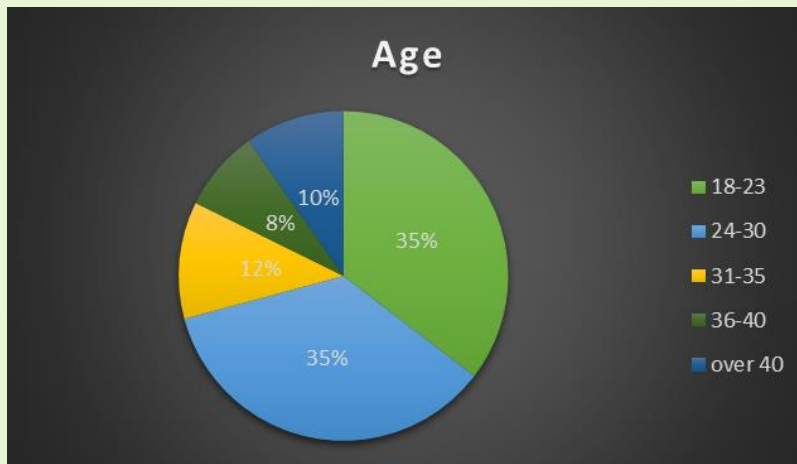
Regarding the focus, the participants were separated in three groups:

- adult learners from the partner countries;
- institutions -> various educational providers, VET schools, universities, formal & non formal institutions;
- green entrepreneurs -> experts in green entrepreneurship working in or with green enterprises.

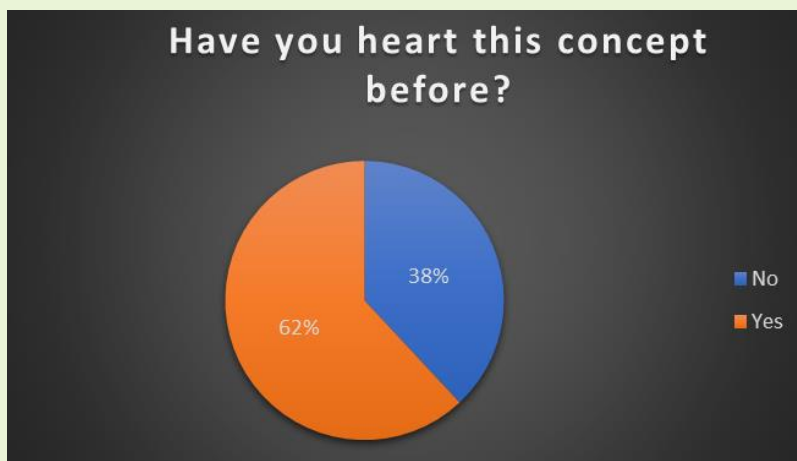
Learners' questionnaire

The participants in the learners' questionnaire were total of 113, across all partner countries: Bulgaria (15), Poland (34), Denmark (15), the Netherlands (17), Greece (18) and Romania (14).

Biggest percentages of participants who took the survey were the groups of **18-23** and **24-30** with 35%. Another 12% were between **31 and 35**, 8% were between **36 and 40**. The remaining 10% were over 40 years old.



Based on the question "Have you ever heard of this concept?" we found out that most of our respondents (62%) have heard the concept of green entrepreneurship before, negative answer was given by 38% of the participants.



There was a variety of answers when it comes to their understanding of **the concept of green entrepreneurship**. Some of the participant answered "*any initiative of a person that promotes sustainability within its actions*" or "*green entrepreneurship could be defined in terms of the technology used for production in any sector of the economy, or in terms of the sectors firms are active in, in which case our attention is restricted to parts of the economy producing specific types of output*". Other answers were saying that "*green enterprises are those whose activities are*

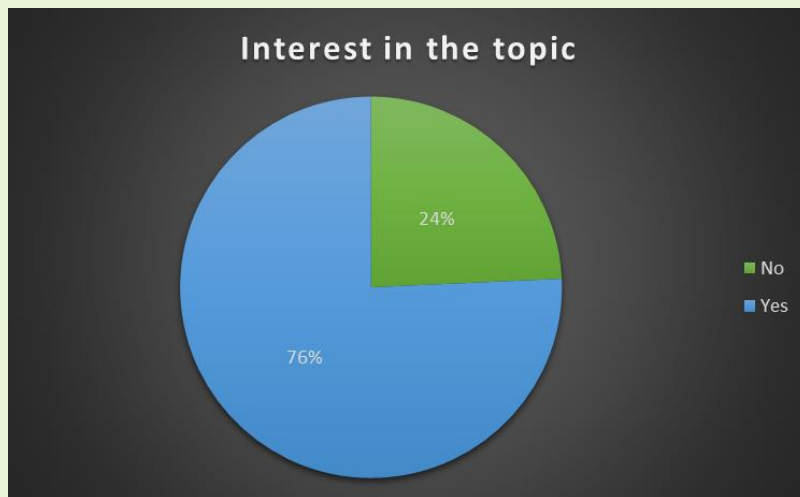
characterized by meeting the requirements for emissions and energy efficiency and by installing devices or technologies that allow them to become independent from traditional energy sources”, “These are companies that are guided by the principles in their activities, to address the issues of environmental and nature protection, and to slow down the pace of climate change”.

Many participants replied that in their opinion green entrepreneurship is intended about “eco enterprises, or companies dealing with ecological products”, “enterprise that uses renewable energy”, “zero waste companies”. There are also number of participants whose understanding of green entrepreneurship was “corporate social responsibility”, “sustainable business” or “products that are sustainable or climate-friendly”.

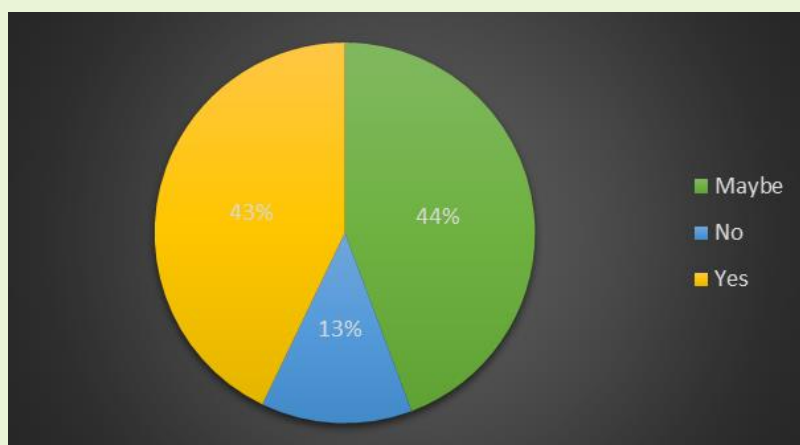
Below are some of the other definitions given by the participants:

- A business based on green technology, that focuses on protecting the environment and building a more efficient economy, producing as little amount of waste as possible.
- The meaning of green entrepreneurship in my opinion is realization of the processes that give new life for materials and waste. This concept protects the environment's resources and guarantees a better future for all.
- It's a special subset of entrepreneurship that aims at creating and implementing solutions to environmental problems and to promote social change so that the environment is not harmed.
- Green entrepreneurship is to act in a responsible manner. This means that the environment is burdened as little as possible.
- Entrepreneurship with environmental consciousness which goal is to increase and enhance green practices through entrepreneurship.
- Entrepreneurships that aims to create solutions for environmental problems.

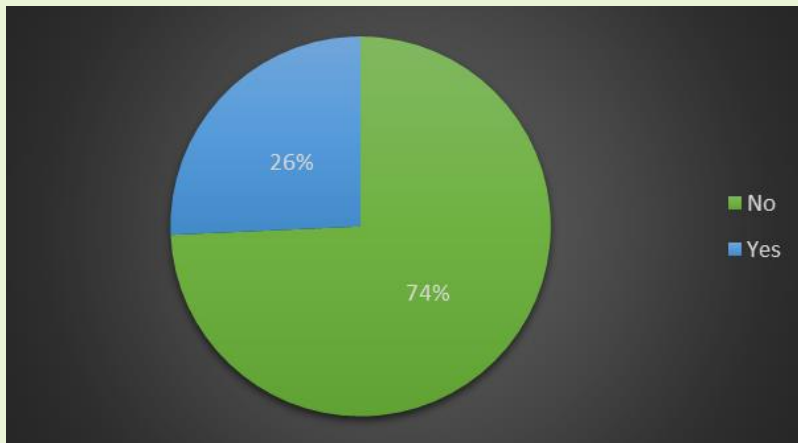
Following up with “Are you interested in following an education and career in topics related to green issues and impact?”, the majority of our participants (76%) are interested in following an education in topics related to the question imposed, while the rest of them are not so keen to learn more.



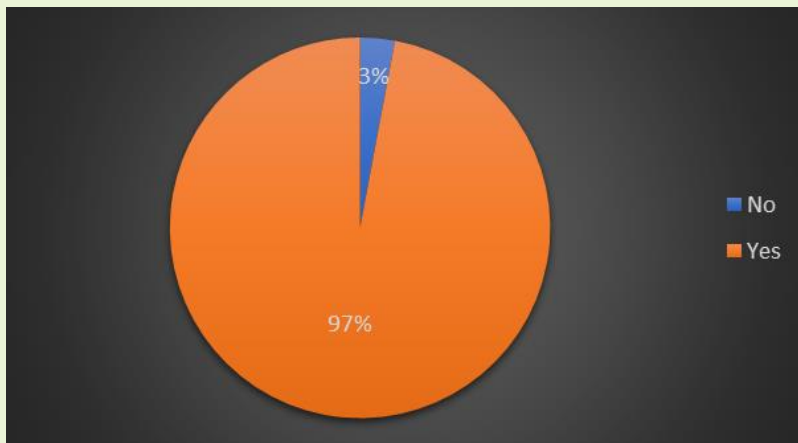
When asked if they would like to pursue a career, 44% of the respondents are not so sure or would take this into consideration, while 13% don't take this option into consideration at all. On the bright side, 43% of the respondents would be interested in a career in this field. Based on these results, it can be noted that there is a relatively big interest in green entrepreneurship as sphere for exploration and development.



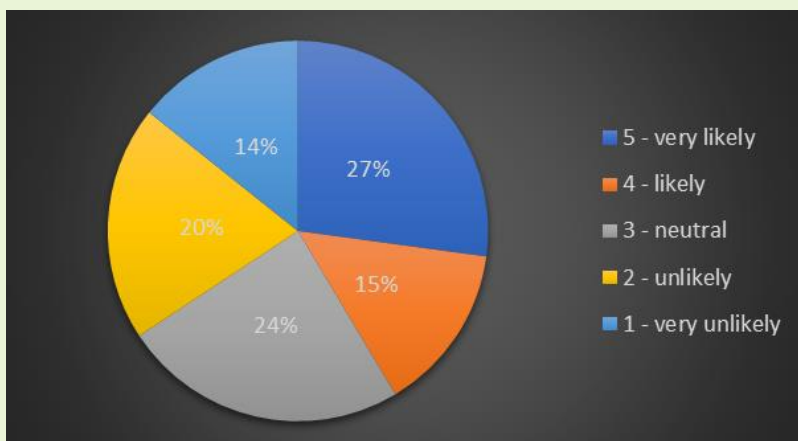
When the participants were asked if there is enough information regarding the green entrepreneurship topic 74% of them replied negatively. This explains why there are so little people who even though they might have heard the expression, they couldn't explain exactly what it is. When asked to give a more in depth answer on in which areas related to the green entrepreneurship is there lack of information and tools, some of the areas mentioned were: how to start such a business, the impact on people, where they could get support or funding, how to take personal actions in order to help the environment and the lack of interest of spreading information. The participants were saying that due to the lack of information in the mass media, people have to search up green entrepreneurship to find information. The ones that are not interested or don't know anything about this topic rarely stumble upon something that can educate them.



On the question if they believe that the green entrepreneurship can have a positive impact on the society, almost all of them (97%) replied positively. The main aspects of green entrepreneurship that the respondents were interested to learn about were the impact in society, relevant basic information on the topic, and what is necessary to become a green entrepreneur.



When asked how likely they would be to participate in an introductory course about green entrepreneurship, the learners all of them are interested in various degrees to take part into such course. Over 40% rated themselves are likely or very likely to participate in an introductory course on the topic.



Changing the career path to green entrepreneurship would be a choice for some of the respondents only under the condition of benefiting from this aspect, or if it would make an impact on the society.

Summary

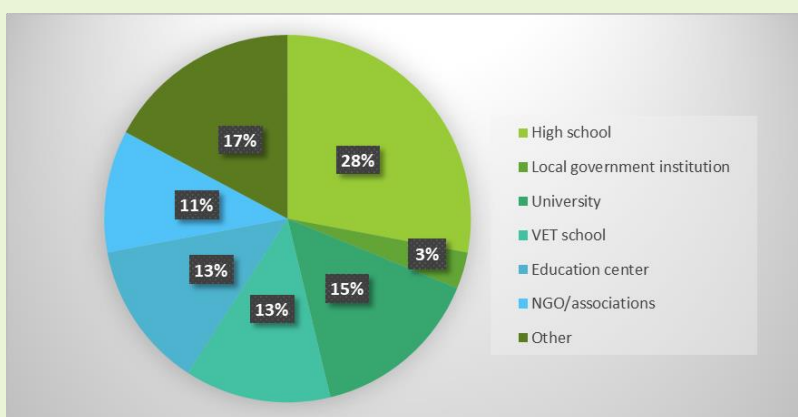
Based on the interviews and questionnaires conducted in all partner countries it is visible that there is interest in the topic, but there is very little or not well structured and accessible information for the people. The majority of the people who participated in the survey were young adults till the age of 30 years old. Many of them were interested in participating in a course on the topic or in some cases even willing to change their career or look for something connected with green entrepreneurship.

This is another argument why a course dedicated to green entrepreneurship with topics such as how to become one, what is the impact on society and types of funding would be useful and a way to spread knowledge.

Educators' questionnaire

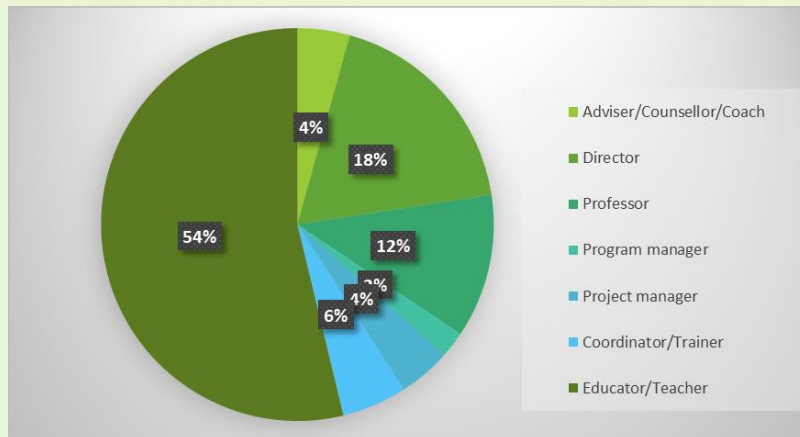
The participants in the educators' questionnaire were total of 93, across all partner countries: Bulgaria (13), Poland (18), Denmark (12), the Netherlands (15), Greece (18) and Romania (17).

Our respondents in the survey were from various fields: 28% were representing high schools, 15% Universities, 13% VET schools or educational centers. The rest of the participants were from associations, non-governmental institutions, local government institutions and others such as adult education centers, youth organizations etc.

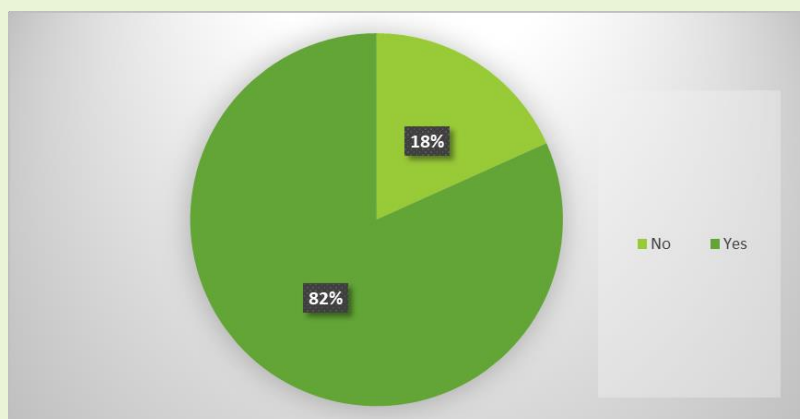


The majority of the participants were from educators/teachers with 54% of all, then the next two big groups were directors or managers of the organizations represented with 18% and professors 12%. Among the rest of the respondents, there were advisers, counselors or coaches, project managers and trainers/coordinators.

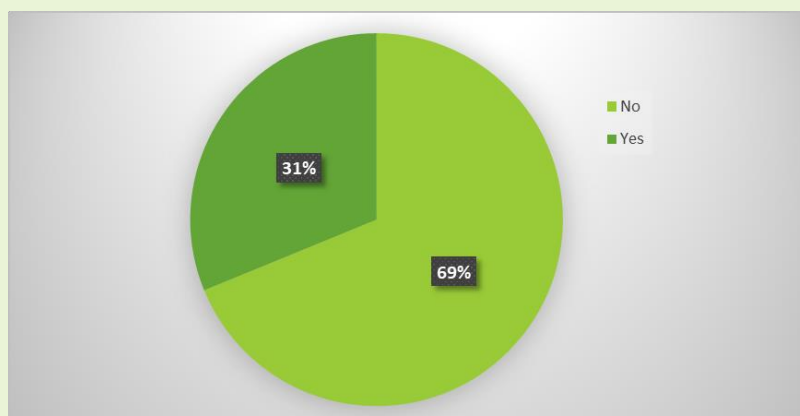
All the participants were representing different types of education and different levels in the hierarchical structure which gives a good perspective on the topics and issues they are noticing from their perspective.



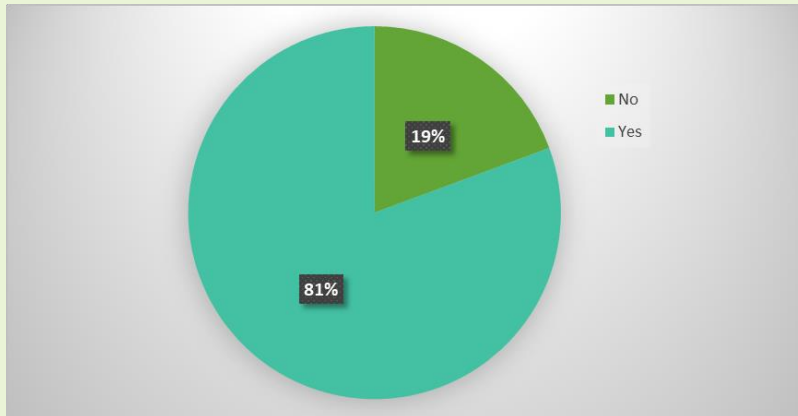
Over 82% of the respondents were aware of the concept of green entrepreneurship, but when asked if there is a specific program regarding green entrepreneurship in their institution, majority of the respondents (55%) said there is no such one.



On the next questions if they have followed a course in green entrepreneurship, there was only 31% of the respondents who replied positively that they have already taken part in a green entrepreneurship course, the rest 69% had not taken part in such a course.

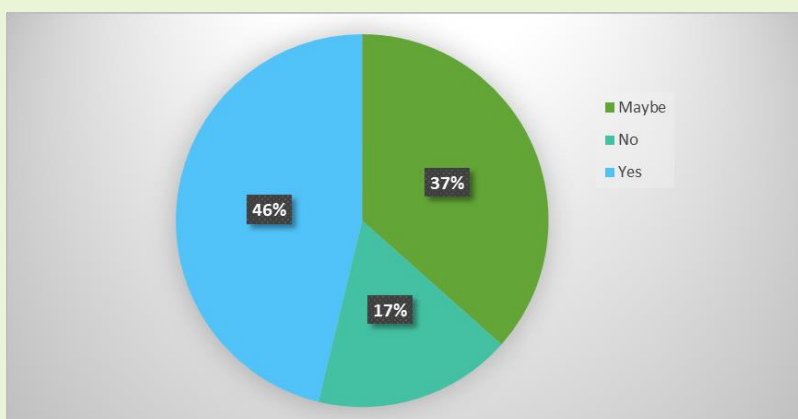


During the questionnaire the respondents had to answer a question if they think that the state provides enough support to institutions which are providing green entrepreneurship education. 52% of the participants replied negatively. Although the majority (81%) considers that the institutions they work at would be interested in courses about this topic.

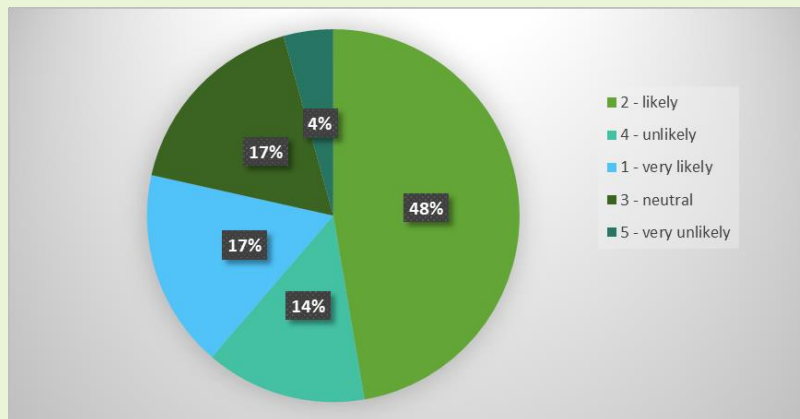


When asked what would help them to promote education, "educational programs, where the knowledge is easy to understand", "reliable information", "the availability of ready-made courses and guidebooks for teachers" were amongst the most common ones, having also mentioned organizing webinars and courses offered by an organization which is specialized in ecological problems. Other replies received were, "The state should constitute rules and regulations which all enterprises should follow. That way, entrepreneurs would be more interested in such a training", "companies that inspire students and offer internships for students", "to promote inspiring and innovative teaching packages about sustainability". Some of the mentioned types of media were: web seminars, open days, radio and television spots dedicated to green entrepreneurship as the new entrepreneurship.

Most of them are interested on following an online course on green entrepreneurship (76%). Nearly half of them (46%) would even be further interested in passing over the information learned, meaning they would be interested in teaching it to others.

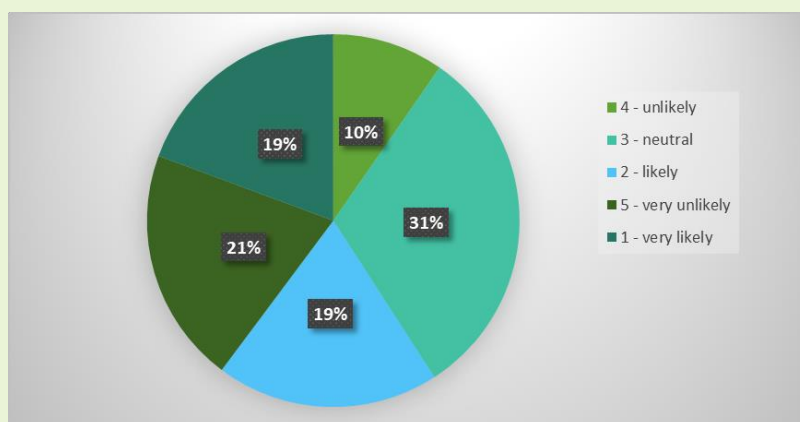


According more than half of the respondents their students would be interested in such a course dedicated to green entrepreneurship (65%).



On the question regarding the challenges they see, the most common answers we received were "Lack on knowledge and awareness of the topic", "lack of interest", "lack of trainers", "lack of public awareness", "lack of financial support" and "poor communication and overall missing connection between the school with the business community in green entrepreneurship".

When asked of how interested they would be to start their own business, 19% of them replied they would start their own business in green entrepreneurship if they had the chance.



Summary

Based on the surveys among the educational staff, we could conclude that there is still a lot to learn and develop regarding this topic. The educational institutions are interested in green entrepreneurship but due to lack of knowledge and resources not many had the chance to participate in training regarding the topic and even though the students might be interested to follow such an educational module they cannot because of the unavailability.

Many of the respondents were interested in following a course in the area of green entrepreneurship and then sharing their knowledge with the respective people they work with. In

addition, government and local institutions help would be of additional support in spreading the awareness and giving more opportunities for people to get acquainted with the topic.

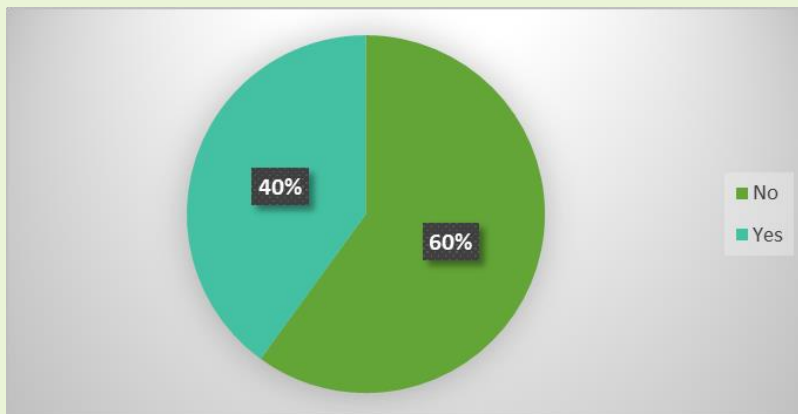
Professionals' questionnaire

The participants in the professionals' questionnaire were total of 70, across all partner countries: Bulgaria (5), Poland (16), Denmark (3), the Netherlands (15), Greece (20) and Romania (11).

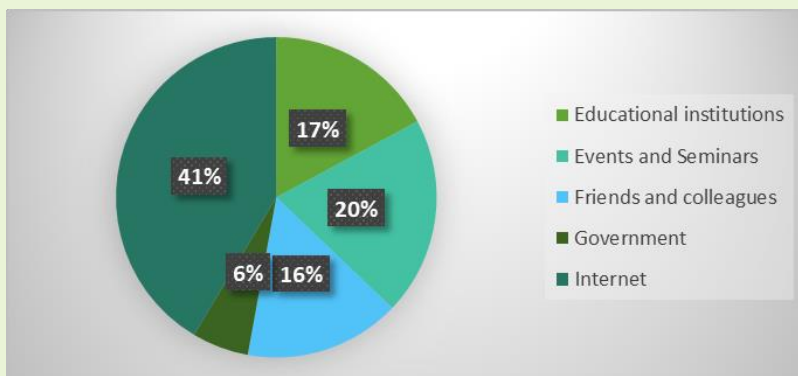
In the professionals category, the replies on the questionnaire offered us some insights on how they became green entrepreneurs themselves. Some of them said that the main motivation was their passion for the environment, the climate change and desire to leave something better for the future generations. Among the respondents there were people, for whom this was family tradition, *"It was my family's heritage, we have figs plantation and I grow up by helping every year to collect the harvest. After my studies I worked in a shipping company as an operator. I always loved the nature so I decided to learn more about the organic figs cultivation and start work in that so I can provide to my family from my family plantation"*. For others this activity has been a long time interest *"I am active in green entrepreneurship since 2010. Back then, I attended a seminar where entrepreneurs from all over the world shared their experiences. I was convinced that I should build my company with respect to the environment, use the minimum sources of energy and find alternative ways for expensive costs which have limited life"*. Other professionals started their path after attending seminars *"I became a green entrepreneur after a training I participated in, few years ago. During this training, I met other entrepreneurs and together we built our company. This training was offered by a big consulting company giving us the opportunity to come together, combine ideas and create strategies and business plans"*. Others got inspired by their friends *"Three years ago I found out from a friend that bio edible flowers are needed in the hospitality industry and I saw a good business opportunity in it"*. Among the rest of the answers from our participants there were motivations such as *"to pass onto their children a clean planet"*, followed up by *"to raise awareness about the importance of recycling and ecology"*, *"to motivate other business to take a more environmental-friendly approach"*.

The focus of the companies involved was various: packaging waste, green materials for construction, using green resources/electricity, managing food waste and green transportation. Others were providing information and consulting on how to businesses can become more sustainable and green, production of carton straws, fashion and recycling fabric, protection of energy resources, cooking, marketing, edible flowers, green furniture, landscape and biodiversity restoration.

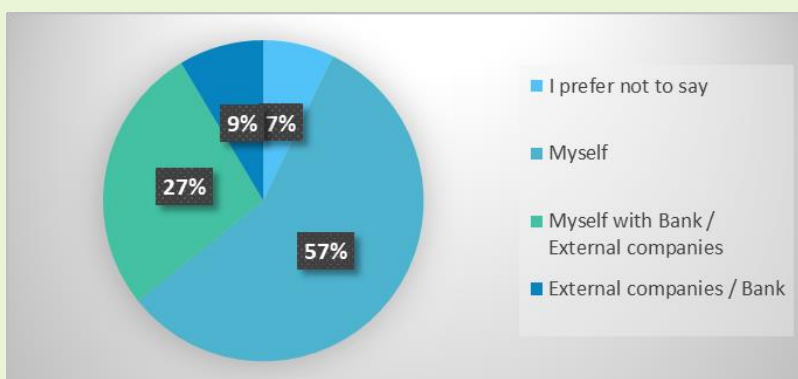
When asked if they got any training, only 40% of the professionals did get a course on green entrepreneurship, while the rest started without basic knowledge on this topic.



All of our respondents managed to find various sources of information. Most of the entrepreneurs used internet as a source of information (41%), while the rest received information and knowledge from either education institutions (17%), during events or seminars (20%), or friends and colleagues (16%).



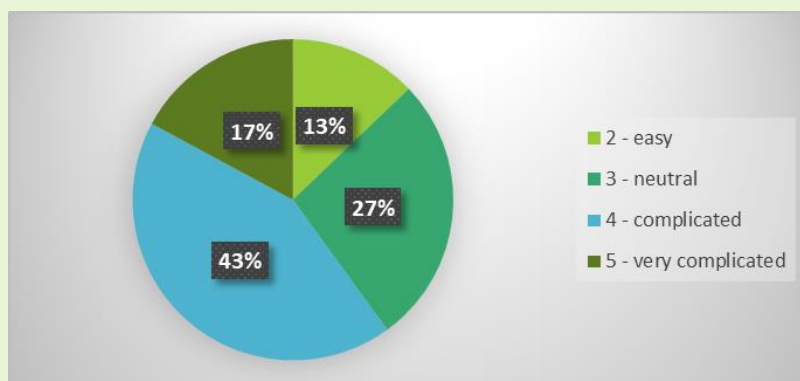
When asked who invested in their business, most of the professionals contributed themselves with their own funds. 57% of them financed their business themselves, 27% used both own funds and external funding and only 9% financed it with banks or external companies.



The obstacles they had to face at the beginning were bureaucracy, confusing legislation, the high costs, lack of information and lack of proper training. Our respondents were saying it was difficult to establish good partnership and collaboration in the beginning, to find how to sell their services or products. Some of the professionals answered that among the toughest problems were regarding the funding and getting permissions.

The factors which helped the most the professionals at the beginning were: their own motivation, interest in the products from the consumers, the support of the colleagues, the existence of opportunities on the market and the desire to leave a better planet to the others. Some of the professionals had the opportunity to get help from incubation programs.

Over 50% say that it was complicated or very complicated to start a business in green entrepreneurship in their country. Only 13% reply that starting the business was an easy task.



Summary

In conclusion, among the biggest part of the professional group a desire to help and create something better for the future was noticeable. They were socially engaged, looking for ways to improve things and address the pain topics that concerning ecology and the environment.

We can say that the field of green enterprises focus is quite diverse – from enterprises focused on renewable energy, to packing and deliveries, food waste and fashion. The amount of people who started green business is not very big and majority of them even say it was difficult to do so. Bigger part of the companies was funded with personal savings or external companies help.

Prior starting the business part of the entrepreneurs had received some kind a training and based on events and conferences they were able to receive more information on the topic. Everyone agreed that there were difficulties in regard to finding relevant information. This, together with the funding were among the biggest challenges faced when starting a green business. The motivators were the personal motivation and belief in the positive impact from their work.

Conclusion

In this report we presented the current realities of circular entrepreneurship in Bulgaria, the Netherlands, Denmark, Greece, Romania, and Poland.

We explored the topics of legal framework, best practices and policies for green entrepreneurship in the partner countries via desk research. In addition our investigation included over 100 respondents of questionnaires, measuring their knowledge and expertise in the field. Based on that information, we concluded that there are different factors and policies applied and they are driving the contrast between the partner countries in the field of green entrepreneurship.

Denmark and the Netherlands were among the leaders in the eco innovation index and they have very well developed and working policies which are assisting and encouraging green entrepreneurship and innovation. Greece was among the average performing countries, whereas Bulgaria, Romania and Poland were in the catching-up group of countries others these topics are still new and unexplored. Overall, the EU legislations do try to encourage circular economy and green innovation, but it is a long process that takes time and a lot of effort from everyone – business, people, governments etc.

During the field research we found out that there is desire to learn and develop in the field of green entrepreneurship. In general, most of the people who participated said the information and awareness about these possibilities are not very widespread and it is difficult to understand and organize.

The aim of the project result is to answer the questions and difficulties that people encounter when they want to learn more about the topic. Through the online platform (www.ageplatform.info) and the modules the partners are developing, interested parties will be able to find related topics in an accessible way and to deepen their knowledge.

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Main editor and coordinator: **Mundus Bulgaria**
Denitsa Andonova
Lili Kalibatseva

Partner team:
Asociation DGT
Luca Ilinca-Alexandra
Georgiana Tărlungeanu

Stichting Dutch Foundation of Innovation Welfare 2 Work
Carla de Vreij
Pieter van Schie

SOSU OSTJYLLAND
Anna Jørgensen
Bodil Mygind Madsen

Athens Network of Collaborating Experts Astiki Etairia (ANCE)
Nefeli Papagiannakou
Francesco Amighetti
Vicky Zisaki

Regionalne Centrum Wolontariatu
Michał Braun
Anka Pożoga



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