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Ecodesign and Ecoinnovations

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Ecoinnovation project management

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1. INTRODUCTION

The world is in some cases and in some ways going green and it appears that the governments have been starting to get the message too. We are slowly realizing that we do not dispose of an unlimited amount of natural resources to continue to utilize as we have done so far. The concerns over the climate change serve as the central rallying point for an environmentally friendly movement which is materializing in actions of different institutions (e.g. the European Union´s Green Deal), organizations (e.g. Clean Ocean Movement), organized groups (e.g. Fridays For Future) and also individuals (e.g. Greta Thunberg).

The question is how we can apply these “green” concepts to our lives and jobs, in this case to the project management discipline. One quite evident way is that we can manage our green projects by default more efficiently. For example, if you coordinate a project that will result in a new generation of batteries significantly reducing the carbon footprint of the electric cars, it would be great if the project was completed on time or even sooner than planned initially. After all, the sooner a green project ends, the sooner the environmentally sustainable benefits will be achieved.

However, it has to be mentioned that all the projects out there are not of this kind, concretely they are not green by default, resp. initially do not focus on delivering an environmentally sustainable solution. Many deal with other projects, like painting the reversed pyramid building of the Slovak radio, or upgrading the internet connection in a shared apartment building. You might place the question how these projects can become (more) environmentally friendly. The answer is Green Project Management which is a model where we think green throughout our projects and make such decisions and in such a way that take into account the impact on the environment. It is a way to incorporate so called “green-think” concept into each step and project management process you undergo.

The important point about green project management is not that every decision made is in favour of the one that can be considered most environmentally friendly. The meaning behind is that we take the environment and its sustainability into account instead of closing our eyes to it. This them means that you can take most decisions the same way as till now. However, there could be some decisions you would make in another way. These then multiplied by millions of decisions taken every day worldwide, can make a tremendous difference.

Different tools and instruments have been developed by the Commission to facilitate the transition towards a more green Economy. Green Procurement in the EU is one of the biggest tools for achieving goals Green Project Management.

Eco-innovation is now an integral part of business strategy in all developed countries. Project development in the field of eco innovation is considered a systematic use of available resources, knowledge and practices to design and implement an eco-innovation project and meet its goals and objectives. This is also defined as the process of

transforming the eco innovation project inputs into expected outputs by using available resources.

There are also resources in form of public or private funding supporting eco innovation projects accessible for different types of actors and partnerships. It has been a trend that grantees receiving these funds are requested to follow green recommendations to achieve a greater positive social and environmental impact. The EU, with the adoption of the European Green Deal, wants to be a global leader in the transition to a greener future, offering opportunities for EU funding for green projects for the period 2021-2027. The Green Deal is streamlined across various EU policy instruments, which is giving further push towards sustainable innovation. The provided EU support for eco-innovation has never been more significant. This is primarily due to the Next Generation EU, the EU recovery plan from the adverse effects of COVID-19. NextGenerationEU provides an additional budget of €750 billion to bolster investments in critical digital and sustainability innovations in the early years of this programming period (2021-2027).

2. PROJECT MANAGEMENT

Let us begin with a short explanation of the term project, specifically for the purposes of our course. Project is basically a work plan which is pointing out the current situation and how it will change once the project is carried out. Project is also a summary of the following information: why are we implementing the project, for whom and with whom, who will help and support the project, how will out project be financed and by whom, who will be doing what and when, etc. Project seen as a plan helps the coordinator to organize own ideas, supports the dissemination and promotion, makes the involved parties to think about different situations and scenarios.

It all begins with an idea. If you are a car engineer, you might think of developing a new generation of batteries significantly reducing the carbon footprint of the electric cars. This is the time when you start thinking about a project. The very first step is to outline what we want to do, and in a clear and understandable way define the aim of our project. For example: “We are a group of students studying automotive engineering and we intend to develop and test a new generation battery and this way reducing the carbon footprint of an electric car existing today.”

If we made the decision to carry out the project idea of ours, we should answer the following basic questions: [1]

[1] Inspired by: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjf496Z-5j5AhUCXfEDHZ4iCcwQFnoECA8QAQ&url=https%3A%2F%2Fwww.iuventa.sk%2Ffiles%2Fdocuments%2FDokumenty%2520pre%2520stranku%2FSubory%2FPublikacie%2F29-BROCHPripravme_si_miestny_projekt.pdf&usg=AOvVaw1Fip_v7dViTC8S0WtpRRrE

WHO ->

What type of a group we are? Who is part of it? Are we specific in any way? What are our interests? What brings us together? etc. This is the answer to the “who” question and says who will be the organizer and implementer of the project.

In our case it would be the group of students in the field of automotive engineering, already at the PhD. level, having some previous research and development experience.

WHAT? ->

What do we want to achieve? What will be the result of our project? This is the essence, the meaning, the aim of the project.

In our case it is the new generation battery for electric cars which will have remarkably less CO2 footprint then the batteries used today.

WHY ->

Why do we want to implement this project? What will change? What do we want to achieve? How will we measure it? What tasks do we have? So this is the goal of ours in the project.

In our case it could be our belief that the climate change can only be slowed, if we create less CO2 and lower our footprint wherever it is possible. By developing and testing the new generation battery, the car industry might start to use it in a wide range.

FOR WHOM ->

For whom are we doing what we are doing? Is it for ourselves? Or is there any group, entity, business benefiting from the project? This gives us an idea who is the target group.

Once we have a new battery with lower CO2 developed and tested, it is the car industry who can be our direct target possible using the batteries widely. The indirect group benefiting from the project in future will be the owner/users of the electric cars with new generation batteries. And at the end of the day, less CO2 is good for everyone, especially planet.

HOW ->

What exactly do we need to do in order to reach our goal and fulfil the tasks? Meaning that we need to have a plan and program.

In the case of the less demanding batteries, a research would be followed by development and testing. Afterwards promotion will be necessary and spreading the new generation batteries within the automotive industry.

WHEN ->

When will we start and finish. We need a clear and realistic time scope to carry out all the activities and tasks set in the program.

WHERE ->

Where will all this take place? The places where we will carry out the tasks and activities is also important.

In our case it is the research and development centre of the university, then the testing laboratories, virtual space, fairs to promote our product, etc.

WITH WHOM ->

Who will be our partners in our project? With whom we will cooperate? Having the right partners engaged is a very crucial part of the project too.

It is the university, its employees be it professionals in the field and also project support team members, our donors, companies, researchers from other institutions, etc.

HOW MUCH ->

How much is it going to cost? Without resources invested in a project there is no project. And we do not mean only finances but also time, energy, brain capacities, competences, space, materials, etc.

WHO GIVES FINANCES ->

Who will be financing our project? Do we know any private/for profit/non-profit organizations, foundations, funds or individuals willing to invest in our project? And what will they expect in return? Will our project produce income? Where to get initial financing and understanding what value we will create (if also financial) is also necessary in the very beginning.

It is inevitable to realize that we are not alone in this. Our surroundings, groups, communities, companies should be consulted beforehand. A survey among these actors is always a good start. It can also lead us to similar and/or synergic projects being carries out by others. The experience of others, positive or negative, can save us a lot of time and other resources. And of course, a project can never be a one man show. The value of a team lies not only in interesting ideas, creative approaches, and willingness to participate but also in the team spirit, the inspiring environment and sense of community with similar visions.

3. GREEN PROJECT MANAGEMENT

Now when we know the basics of a vital project, we will be shifting our attention to the green component added to project management. As we tried to outline earlier a green project can be one that introduces renewable energy sources to every city hall building around the country; it could also be an effort to save a species of wild goats living in the mountain areas. However, the real idea behind the term is absolutely not limited to ecology and environmental protection. Certainly it includes green and sustainability driven initiatives but it is not narrowed to them.

We need to understand that our project, company or organization, and the planet will benefit if we take a complex and sustainable approach and consider a long-term perspective in regards to initiating, planning and implementing a project. One of the frameworks, defined already in 1994 by John Elkington, is the Triple Bottom Line (TBL) framework explained as a sustainability framework that examines a company´s and/or project´s social, environmental and economic impact.[2] It became quite wide spread to refer to this framework as "People, Planet and Profit". When we speak about green project management, we mean that the project and its coordinating team has considered the long-term impact on the social, environmental and economic dimension, and asked itself three basic questions:[3]

1. Will the project generate economic value for a sustained period of time?
2. Will this project contribute positively to the society? Or at least, will it minimize any negative impacts on society?
3. Will this project contribute positively to the environment? Or at least, will it reduce any negative impacts on the environment?

Rich Maltzman then considers green project management in terms of a rainbow of green which according to him spans the idea of a wind farm or species-saving initiative, to a project which by its very nature has seemingly nothing to do with ecology, or the local community, or anything approaching the stereotypical idea of a green project.[4]

According to this logic of Maltzman, we can speak about the following **four types of projects**:

1. **Projects "green" by definition**

Green projects by definition have a character which is associated with the environment. The connection to saving the planet is obvious. An examples could be the initiative of the city of Bratislava aiming to bring back bees into the city centre via setting small urban meadows.

[2] https://hbr.org/2018/06/25-years-ago-i-coined-the-phrase-triple-bottom-line-heres-why-im-giving-up-on-it
[3] https://onlinepmcourses.com/green-project-management-ready-to-think-sustainably/
[4] https://onlinepmcourses.com/green-project-management-ready-to-think-sustainably/

2. **Projects that are "green" by project impact**

These are projects which have a positive impact on society, community, etc. in relation to the environment. An example could be the DRIVEN project focusing on creating valuable content for learners thanks to what more circular economy aspects will be applied in the automotive industry once learners become car engineers.

3. **Projects which are "green" by product impact**

Some projects are into designing and creating a product or service that has a positive environmental impact. For example a project focusing on development of an electric car-sharing platform could fit under this category; or an app which could read the label of an apparel and tell its story – who planted the cotton seed, how much water was used to grow it, who and by what colour coloured the textile, how many kilometres did the T-shirt travel to the store, etc.

4. **Projects which are "green" in general**

These projects might not appear as environmental sustainability oriented or green, however by existing, they fulfil this criteria too. It could be e.g. an organic community garden established next to a city library or development of a new generation of batteries for electric cars, being lighter and lasting longer therefore leaving a smaller CO2 footprint behind, etc.

It is good to mention that Green Project Management put in place must still be sound project management. Going green does not mean can do not have to deliver on time, rather the opposite – the earlier, the better. Nor does it mean that we can exceed the pre-planned budget without a reasoning. However, it is true that our efforts will now be more focused on a project that delivers value to the organization itself, to the people, communities and society, and last but absolutely not least also to the planet (refer to triple bottom line).

The above explained then nicely correlates with responsibility. Some even refer to the concept of Corporate Social Responsibility as the one being a framework for green project management. What we want to outline, as Rich Maltzman put it: "*In its [responsible green project management] focus on sustainability, it takes responsibility for the future as well as the present.*" It is also very encouraging that there is a growing number of professionals who have decided to work along the concept and consider lasting and sustainable project values.

For organizations that have environmental sustainability embedded into their philosophy and mission, the so called PRiSM project management methodology might also be a useful tool. PRiSM is an abbreviation of **PR**oject **I**ntegrating **S**ustainability **M**easures. It is basically a principle-based methodology that in first place applies a value-maximisation approach while emphasizing the integration of sustainability into the whole project lifecycle. It clearly focuses on the process and also the sustainability of the final result. This methodology is built upon Green Project Management and the so called P5 Standards for Sustainability in Project Management. The P5 standards are based on the triple bottom line, also known as

the 3Ps (people, planet, profits/prosperity), and adds another two elements – Project and Process. The PRiSM thus offers a set of tools and process guidelines to support sustainability tracking, leading and adjusting in projects by taking into account the five above mentioned elements.[5]

It need to be outlined that these standards also intend to find synergies between green project management goals and the **UN Sustainable Development Goals** and this way empower a complex impact of projects and its results. The alignment with the UN's 17 Sustainable Development Goals can be seen at the picture (Figure 1) below where the SDGs got organized into six thematic categories while they belong under one of the 3Ps.[6]

Fig. 1 17 SDGs organised into six categories for project management (available at: https://www.responsiblepm.com/our-purpose)

The intersection of green and project management has also materialized in **ISO's environmental standards**.[7] For example ISO 14001 sets criteria for an environmental management system and can be certified too. It offers a framework that an organization can follow to set up an effective environmental management system. There standards are designed for any type of organization, regardless of the concrete activity or sector of operation. They guarantee the management of an organization and its employees as well as stakeholders and partners that environmental impact is constantly being measured and bettered.

[5] https://pmo365.com/prism-project-management-explained/
[6] https://www.responsiblepm.com/our-purpose
[7] https://www.iso.org/iso-14001-environmental-management.html

Should we look for some **helpful tips** supporting our efforts to incorporate green thinking into our projects, it is worth to consult Michael Wood, an accomplished professional also in the area of project management:[8]

1. **Stay virtual.**

The pandemics thought us that a great amount of projects can be managed remotely on a virtual bases. This way the CO2 lowers tremendously (e.g. less commuting, less paper used, energy saved, etc.).

2. **Think conservation.**

Adopting a mind-set of conservation, especially when it comes to resources on projects can include repurposing of outdated technologies or reducing the consumption of disposables like paper. It also means making an effort to recycle everyday items that the project team uses in the course of the project.

3. **Integrate "green-think" into the project culture.**

Getting all the engaged parties in the project to consider green alternatives when developing work plans, communication plans, etc. can save lots of resources and at the same time contributes to environmental sustainability.

4. GREEN PROCUREMENT

Green Procurement in the EU is one of the biggest tools for achieving goals Green Project Management. Europe's public authorities are major consumers. By using their purchasing power to choose environmentally friendly goods, services and works, they can make an important contribution to sustainable consumption and production - what we call Green Public Procurement (GPP) or green purchasing. [9]

GPP is a special form of public procurement, in which requirements are applied in its relevant steps to ensure that the subject matter of the contract, including activities related to its delivery, assembly, installation, operation, will have a favourable or at least a more favourable impact on environment, as in the case of products with comparable functional or performance parameters, where environmental impact is not normally taken into account.

In the framework of GPP, a green public procurement entity or contracting entity can take into account, for example, energy conservation, or supporting renewable energy sources, saving water, reducing the consumption of primary resources, or supporting the recycling

8 https://www.projectmanagement.com/contentPages/article.cfm?ID=698621&thisPageURL=/articles/698621/Tips-for-Thinking-Green-on-Your-Projects#_=_

9 https://ec.europa.eu/environment/gpp/index_en.htm

of raw materials, reducing the content of hazardous substances, reducing the production of harmful substances, air protection, water protection (soil protection), reducing the production of waste, including hazardous waste, environmental management of waste, throughout the entire life cycle of the procured product.

GPP is “a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured” (Communication "Public procurement for a better environment" – COM (2008) 400). [10]

GPP is a voluntary instrument, Member States and public authorities are free to decide the extent to which they implement it. In Europe, public authorities spend approximately 1.8 trillion euro per year, representing around 14 % of the EU’s GDP (gross domestic product). Adopting GPP principles, would contribute to promoting sustainable consumption and production, providing industry with real incentives for developing sustainable solutions and products and to accelerating the demand for sustainable skills. [11]

Although GPP is a voluntary instrument, it has a key role to play in the EU's efforts to become a more resource-efficient economy. It is supported by a range of EU policies and strategies, which proves its irreplaceable role in achieving the goals of the green economy.[12]

Legal Framework for GPP in the European Union is subject to several sources of EU Community law: The Procurement Directives (2014/24/EU and 2014/25/EU), The Treaties (Treaty on the Functioning of the EU and its predecessors), Case law of the Court of Justice of the European Communities.

The Treaty on the Functioning of the European Union) and the EU Procurement Directives (2014/24/EU and 2014/25/EU) establish the rules and principles which must be observed in the award of public contracts. Public procurement must comply with several guiding principles, such as: free movement of goods and services and freedom of establishment, non-discrimination and equal treatment, transparency, proportionality, and mutual recognition.

The EU Procurement Directives (2014/24/EU and 2014/25/EU) were adopted on 26 February 2014 by the Council of the European Union and the European Parliament. The main objective of the 2 Directives is to simplify public procurement procedures and to make them more flexible. The new rules seek to ensure greater inclusion of common societal goals in the procurement process and the inclusion of environmental protection, social responsibility, innovation, combating climate change, employment, public health and other social and environmental considerations in GPP.[13]

[10] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52008DC0400
[11] https://ec.europa.eu/environment/gpp/what_en.htm
[12] http://www.un-documents.net/aconf199-20.pdf
[13] https://ec.europa.eu/environment/gpp/eu_public_directives_en.htm

At the national level, most EU Member States have now published **GPP National Action Plans (NAPs)** which outline a variety of actions and support measures for green or sustainable public procurement. Many have set targets for GPP, either in terms of overall procurement, or for individual product and service groups. [14]

The essence of GPP consists in the integration of environmental characteristics into public contracts with the aim of increasing the demand for environmentally suitable products. By supporting and using GPP, public authorities can provide industry with incentives to develop environmentally friendly technologies and products.

For the purpose of uniform and transparent implementation of GPP, the European Commission creates common characteristics for selected groups of products, based on a life cycle approach and a scientific knowledge base.

The European Commission publishes environmental characteristics in product sheets, i.e. **EU GPP criteria for individual selected product groups**. Individual EU GPP Criteria contain basic and extended environmental characteristics. The basic (main) environmental characteristics are focused on the most significant environmental impacts of the given product, their use requires a minimal need for further verification or an increase in costs. Extended (complex) characteristics are intended for organizations interested in purchasing the best environmental products available on the market, while their use may mean additional administrative effort or a certain increase in costs compared to other products that perform the same function.

The EU GPP criteria are developed to facilitate the inclusion of green requirements in public tender documents. While the adopted EU GPP criteria aim to reach a good balance between environmental performance, cost considerations, market availability and ease of verification, procuring authorities may choose, according to their needs and ambition level, to include all or only certain requirements in their tender documents.

In the current period, **The EU GPP criteria are created for these groups:** [15]

- Cleaning products and services
- Computers, monitors, tablets and smartphones
- Data centres, server rooms and cloud services
- Electricity
- Food Catering services and vending machines
- Furniture
- Imaging Equipment, consumables, and print services

[14] https://ec.europa.eu/environment/gpp/action_plan_en.htm
[15] https://ec.europa.eu/environment/gpp/eu_gpp_criteria_en.htm

- Office Building Design, Construction and Management (currently under revision)
- Paints, varnishes and road markings
- Public Space Maintenance
- Road Design, Construction and Maintenance
- Road lighting and traffic signals
- Textiles
- Road Transport
- Sanitary Tapware
- Toilets and Urinals
- Electrical and Electronic Equipment used in the Health Care Sector
- Copying and graphic paper
- Water-based Heaters
- Waste Water Infrastructure

In the Communication "Public procurement for a better environment" (COM (2008) 400) the Commission recommended the creation of a process for setting common GPP criteria. The criteria used by EU Member States should be similar to avoid a distortion of the single market and a reduction of EU-wide competition. Having common criteria reduces considerably the administrative burden for economic operators and for public administrations implementing GPP.

A number of resources have been developed to assist public authorities in implementing GPP, like Handbook on Environmental Public Procurement giving advice to purchasers on legal and practical aspects of GPP (The Buying Green!); A GPP Helpdesk to respond directly to stakeholders' enquiries; A News-Alert featuring the most recent news and events on GPP; A list of responses to Frequently Asked Questions; A glossary of key terms and concepts related to GPP. [16] [17] [18] [19]

Links to these resources plus studies, projects, videos, networks, national links, GPP examples, court cases and legal and policy background, training materials and documents for new criteria development can be found on the GPP website. [20]

[16] https://ec.europa.eu/environment/gpp/buying_handbook_en.htm
https://ec.europa.eu/environment/gpp/pdf/Buying-Green-Handbook-3rd-Edition.pdf
[17] https://ec.europa.eu/environment/gpp/helpdesk.htm
[18] https://ec.europa.eu/environment/gpp/alert_en.htm
[19] https://ec.europa.eu/environment/gpp/faq_en.htm
[20] https://ec.europa.eu/environment/gpp/index_en.htm
https://ec.europa.eu/environment/gpp/pdf/Buying-Green-Handbook-3rd-Edition.pdf
https://op.europa.eu/en/publication-detail/-/publication/28948315-41da-11ec-89db-01aa75ed71a1/language-en/format-PDF/source-242944128

The advantages of GPP can be seen in the fulfilment of special goals and tasks in the area of the environment (reducing CO2 emissions, energy efficiency and preservation of natural resources), cost savings, strengthening of trust in public administration on the part of citizens, businesses and civil society companies, promoting innovation and supporting the development of competitive ecological goods and services and expanding the market for these goods and services, creation of healthier working conditions for employees and in construction capacity for public organizations to meet challenges in the area of livelihood environment and resources.

The benefits associated with GPP implementation are not limited to environmental impact but can also include social, health, economic or political benefits. [21]

The OECD has also been working on the issue of GPP for a long time, which already in 1996, it recommended that member states develop and implement strategies for continuous improvement of the environmental behaviour of public administration bodies by integrating environmental requirements into all activities of bodies and offices, as well as into all decision-making processes.

According to OECD, GPP can be a major driver for innovation, providing industry with incentives to develop environmentally-friendly works, products and services, may also provide financial savings for public authorities, especially if you consider the full life-cycle costs of a contract and not just the purchase price. Finally, authorities who implement GPP will be better equipped to meet evolving environmental challenges, for example to reduce greenhouse gas emissions or move towards a more circular economy. [22]

5. TIPS REDUCING THE IMPACT OF PROJECTS ON THE ENVIRONMENT

There are some tips on how to reduce the environmental impact of the projects. All beneficiaries should be encouraged to consider the environmental impact of implementing their projects. In addition to the implement the European Commission´s Green Public Procurement guidelines and toolboxes, as mentioned above, there are several other recommendation how to minimise the environmental impact of the projects.

All organizations can register for the international standard for environmental management, i.e. companies and organizations of any type that require practical tools to manage their environmental responsibilities. The most credible and robust environmental management tool on the market, adding several elements on top of the requirements of the international

[21] https://ec.europa.eu/environment/gpp/benefits_en.htm
[22] https://www.oecd.org/gov/public-procurement/green/

standard for Environmental Management Systems EN ISO 14001:2004 (Hereafter: ISO 14001) is the Eco-Management and Audit Scheme (EMAS).

EMAS is the voluntary management instrument developed by the European Commission for companies and other organizations to evaluate, report, and improve their environmental performance. EMAS is a reliable and effective market management tool for organizations that want to improve their environmental performance through added value compared to the requirements of environmental management systems according to the international standard EN ISO 14001, in particular: in accordance with environmental legislation, compliance with which is guaranteed by the state; in mandatory information to the public through the organization's environmental statement; in increased employee engagement. [23]

The EMAS User's Guide, developed in 2013, is a user-oriented tool which translates the EMAS Regulation into practical steps. The Guide provides clear and concrete advice for organisations interested in EMAS to facilitate and encourage their registration and make participation in EMAS as simple as possible. [24]

The EMAS Implementation Tools leads to improvements in management processes and environmental performance for all types of organisations. To help make the process of implementing EMAS even easier, especially for small and medium organisations, the EMAS Helpdesk has designed four pilot tools to assist with introducing EMAS. [25]

The EMAS register is an online database hosted by the European Commission which lists all EMAS registered organisations and sites. Only those organisations and sites that have achieved EMAS registration are listed in the register, so you can feel confident that organisations found there are committed to improving their environmental performance.[26]

For the organization of sustainable events or conferences organizations can implement the European Commission´s guidelines - Guidelines on organising sustainable meetings and events at the Commission (2018). This Guide is designed as a practical tool to help event planners maximise the positive environmental impacts and minimise the potential negative ones in the course of planning and delivering meetings and events. It has been produced for European Commission staff, but many of the ideas and approaches are equally relevant for any event planner. The Guide provide easy to use checklists to help assess the sustainability of venues, promotional material and catering, as well the environmental friendliness of accommodation and transport, and provides practical advice on ways to reduce/reuse/recycle or share environmental awareness. [27]

[23] https://ec.europa.eu/environment/emas/pdf/factsheets/EMASiso14001_high.pdf
https://www.iso.org/iso-14001-environmental-management.html
[24] https://ec.europa.eu/environment/emas/emas_publications/guidance_en.htm
[25] https://ec.europa.eu/environment/emas/emas_publications/guidance/tools_en.htm
[26] https://ec.europa.eu/environment/emas/emas_registrations/register_en.htm
[27] https://ec.europa.eu/environment/emas/pdf/other/EC_Guide_Sustainable_Meetings_and_Events.pdf
https://www.iso.org/iso-14001-environmental-management.html

Another voluntary tool that organizations can use when organizing events, conferences is **The EU Ecolabel (**the official European Union voluntary label for environmental excellence), which certifies products with a guaranteed, independently-verified low environmental impact. Established in 1992 and recognised across Europe and worldwide, the EU Ecolabel is a label of environmental excellence that is awarded to products and services meeting high environmental standards throughout their life-cycle. To be awarded the EU Ecolabel, goods and services should meet high environmental standards throughout their entire life cycle: from raw material extraction through production and distribution to disposal. The label also encourages companies to develop innovative products that are durable, easy to repair and recyclable. [28]

By means of The EU Ecolabel for Tourist Accommodation Catalogue you can find out more information about environmentally friendly services, but also find an accommodation.

When carrying out project activities, it is advisable to assess whether it needs to be done in person or could be done online. In many cases, practical learning for a project to run properly requires beneficiaries to experience the project at first hand, in order to fully understand its methodology and effect. Where such travel is necessary for a project, there are some ways how to lessen our impact on the environment.

Choosing eco-friendly flights with airlines committed to making changes can help reduce your carbon footprint. You can do this using the European Commission's Consumer Footprint Calculator. This Calculator allows EU citizens to calculate the environmental impacts of their consumption patterns and to evaluate how changes in their lifestyle may affect their personal footprint.[29]

When you search for flights, you should notice the green leaf icon - that's a sign it's a more eco-friendly flight.[30] Train travel is a more rewarding alternative to flying which reduces our contribution to climate change and brings us closer to the countries we visit.[31]

To calculate the environmental impact of your freight transport, there is a practical tool for travellers and decision makers to compare the environmental impacts of different transport options, including the energy used to produce the electricity or the fuel, in a "well to wheel"-perspective.[32]

In case of accommodation, there are several providers of eco-friendly accommodation for Europe and also worldwide, these websites allow travellers to book hotels based on their carbon footprint and certifications,[33] make sustainable accommodations easily bookable

[28] https://ec.europa.eu/ecat/hotels-campsites/en
[29] https://eplca.jrc.ec.europa.eu/ConsumerFootprint.html
[30] https://www.skyscanner.ca/tips-and-inspiration/eco-flights
[31] https://www.seat61.com/; https://night-trains.com/
[32] http://ecopassenger.hafas.de/bin/query.exe/en?L=vs_uic&
[33] https://www.bookdifferent.com/en/eco-certified-hotels/

online,[34] represent and cooperate with hotels that are committed to sustainability, and have the trustworthy certifications to prove it.[35]

There are also some travel platforms that give both travellers and locals the opportunity to participate in a more responsible and sustainable tourism model. [36]

Finally you can participate in The European Climate Pact as an individual or as an organization. [37]

6. ECO-INNOVATION

ECO-INNOVATION IN EU CONDITIONS

Innovation is considered an important tool to succeed in an environment characterized by strong competition in the market. It is important to manage the innovation process and its implementation and seek inventions, financial resources, and many other aspects that are the incentives for successful acceptation of innovation in the market when innovation is implemented. However, it is not sufficient just to innovate. The attention is focused when innovations are created and implemented on the principle of sustainable development, thus representing ecological innovation**.**[38]

Eco-innovation refers to all forms of innovation – technological and non-technological – that create business opportunities and benefit the environment by preventing or reducing their impact, or by optimising the use of resources. Technical eco-innovations take place in products and processes and involve technologies aiming at improving the environmental performance of products and processes such as enabling the production of a given amount of output (goods, services) with less input. Non-technical eco-innovations are less technical and more human-centered, for example environmental management and auditing systems to facilitate the management of environmental activities. They include marketing, organisational and institutional innovations. [39]

Eco-innovation is closely linked to the way we use our natural resources, to how we produce and consume and also to the concepts of eco-efficiency and eco-industries. It encourages a shift among manufacturing firms from “end-of-pipe” solutions to “closed-loop” approaches that minimise material and energy flows by changing products and production methods – bringing a competitive advantage across many businesses and sectors. [40]

[34] https://bookitgreen.com/en/
[35] https://ecohotels.com/
[36] https://www.wayaj.com/; https://ecobnb.com/; https://fairbnb.coop/
[37] https://climate-pact.europa.eu/index_en
[38] https://actalogistica.eu/issues/2021/III_2021_01_Loucanova_Olsiakova.pdf
[39] https://www.researchgate.net/publication/348590116_The_Typologies_of_Eco-Innovation/link/60c2d76c92851ca6f8db5b0d/download
[40] https://ec.europa.eu/environment/green-growth/eco-innovation/index_en.htm

Eco-innovation policy in the EU

One of the most important current EC documents in this area is **the Action Eco-innovation Action Plan.** Plan contains seven key activities aimed at: Policy and regulation, Demonstration projects and partnerships, Standards and performance targets, Funding and SME support, International cooperation, New skills and jobs, European Innovation Partnerships. [41]

With the adoption of the European Green Deal, the EU has put forward a clear roadmap with the ambition to become the world's first climate-neutral continent by 2050.

As a results of above mentioned facts, it is clear that eco-innovation in the EU Countries have a big potential to raise, so it will be good to evaluate it through eco-innovation index, which is one of the most important tool for this purpose.

The Eco-Innovation Scoreboard (Eco-IS) and the Eco-Innovation Index illustrate eco-innovation performance across the EU Member States. It aims at capturing the different aspects of eco-innovation by applying 16 indicators grouped into five dimensions:

- eco-innovation inputs,
- eco-innovation activities,
- eco-innovation outputs,
- resource efficiency,
- socio-economic outcomes.

The Eco-IS and the Eco-Innovation Index complements other measurement approaches of innovativeness of EU countries and aims to promote a holistic view on economic, environmental and social performance.

The importance of Eco-Innovation Index is that it shows how well individual Member States perform in different dimensions of eco-innovation compared to the EU average and presents their strengths and weaknesses.

Eco-Innovation index in EU Member States in year 2022,which is the last known year, is in Fig. 2 [42]

[41] https://green-business.ec.europa.eu/eco-innovation_en

[42] https://ec.europa.eu/environment/ecoap/indicators/index_en

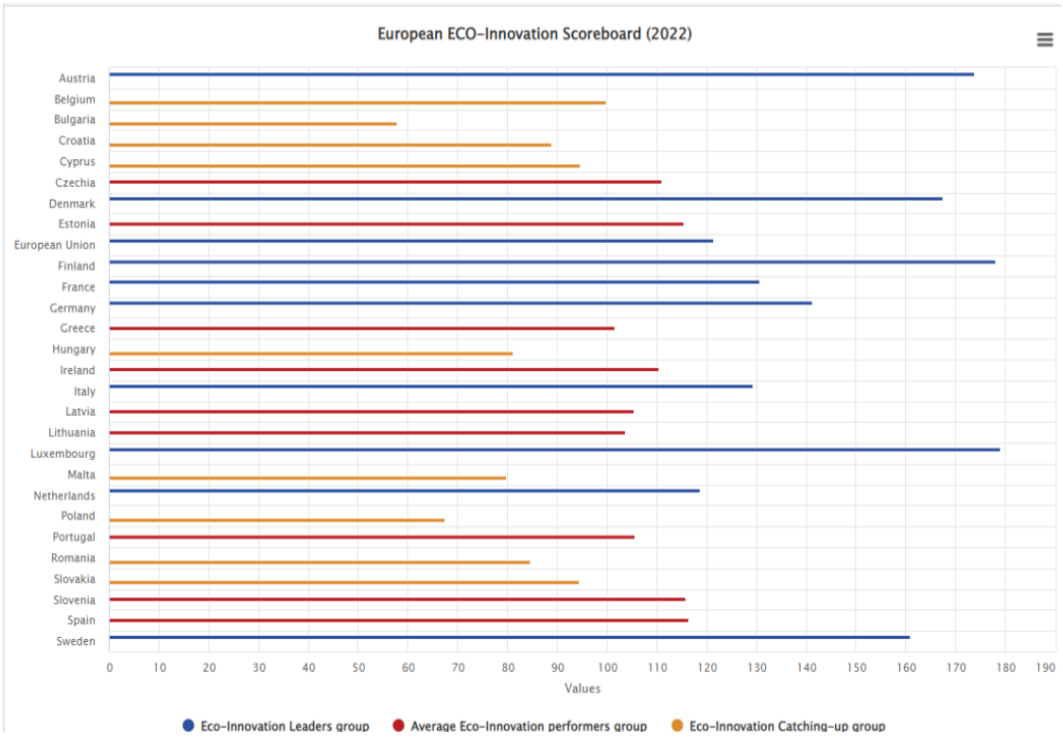

Fig. 2. Eco-innovation index in EU

Eco-innovation is the development and application of a business model, shaped by a new business strategy that incorporates sustainability throughout all business operations based on life cycle thinking and in cooperation with partners across the value chain. It entails a coordinated set of modifications or novel solutions to products (goods / services), processes, market approach and organizational structure which leads to a company's enhanced performance and competitiveness. A conceptual model of eco-innovation that is based on this definition is shown in Figure 3 below.[43]

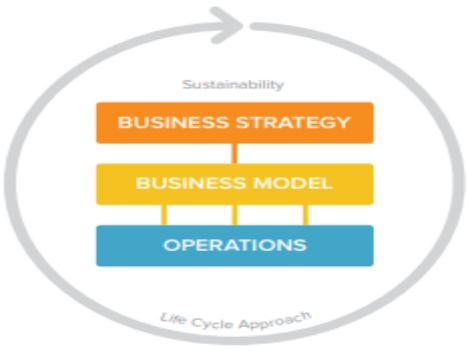

Fig. 3.: Conceptual model of eco-innovation

[43] https://ec.europa.eu/environment/ecoap/indicators/index_en

Overall, the evolving risks, regulations, legislative constraints, and market dynamics create a favourable environment for eco-innovation. Businesses and innovators that recognize these factors and seize the opportunities they present can contribute to a more sustainable future while driving economic growth and competitiveness.[44]

Indeed, the evolution of risks, regulations, legislative constraints, and market dynamics can contribute to the stimulation of eco-innovation. Here's how these factors can drive eco-innovation, in Figure 4.[45]

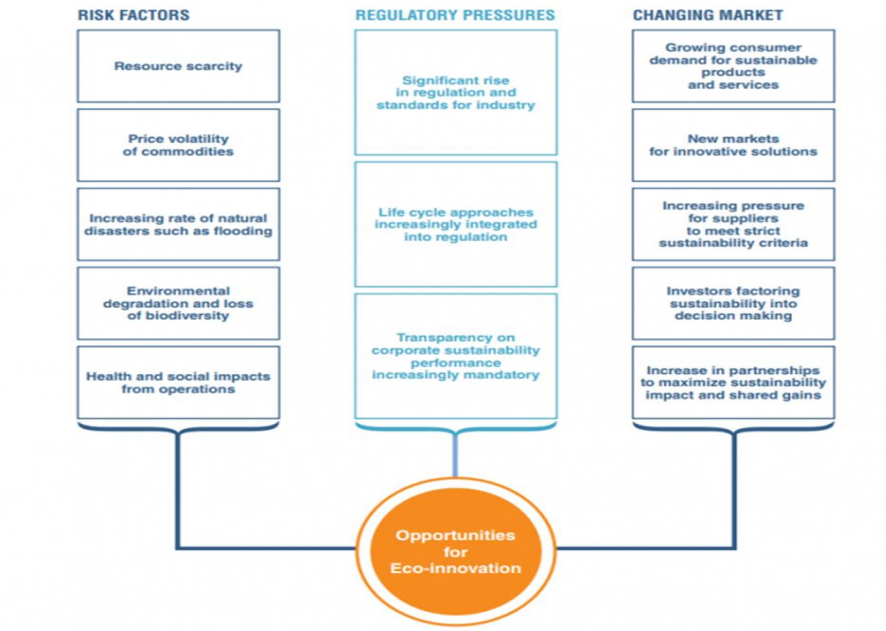

Fig. 4: Opportunities for eco-innovation

Eco-innovation, the development and implementation of environmentally friendly products, services, and practices, can provide several added values and business drivers for organizations. Here's an overview of the key benefits and drivers of eco-innovation:

Eco-innovative companies create value for the business, the environment and society in general. The result is a more flexible company, able to respond to changing market trends with novel solutions ahead of competitors. Contrary to a short-term outlook that leads to incremental improvements and results in only limited progress and benefits, eco-innovation represents a longterm strategic drive towards sustainability. The Business Case for Eco-innovation is intended for a business audience. It provides an overview of growing trends and indicators and presents real cases and examples that demonstrate the compelling reasons to embark on an eco-innovation process. Primary research was carried out directly

[44] https://unep.ecoinnovation.org/wp-content/uploads/2017/07/UN_Environment_Eco%E2%80%94i_Manual-1.pdf

[45] https://www.unep.org/eco-innovation

with companies ranging from start-ups to larger companies worldwide to evaluate the tangible benefits of eco-innovation and the processes undertaken.

Each company has its motivation and reasons for eco-innovating. These motives have been captured, analyzed and organized as the five drivers for eco-innovation, presented in individual chapters.

Fig. 5: Added value from eco-innovation - an overview of the business drivers [46]

By leveraging the added value and business drivers of eco-innovation, organizations can create a positive impact on the environment while enhancing their competitiveness, profitability, and long-term sustainability.

7. ECO DESIGN

The term eco-innovation refers to innovative products, processes or organizational innovations that reduce environmental costs, increase the acceptance of society and contribute to sustainable development. The concept is often used in conjunction with eco-

[46] https://wedocs.unep.org/bitstream/handle/20.500.11822/10613/BCForEI_EN.pdf?sequence=1&isAllowed=y

efficiency and eco-design and also covers ideas related to environmentally friendly technological advances and socially acceptable, innovative ways towards sustainability. [47]

Eco-design is defined as a systematic approach, which considers environmental aspects in design and development with the aim to reduce adverse environmental impacts throughout the life cycle of a product. [48]

The eco-design-spectrum ranges from the minimisation of environmental impacts of a single product to the optimisation of whole socio-economic product systems including their use phase. In this case, the production and sale of goods is no longer in the forefront of a companies' business, rather than the use for the consumer. The eco-design process consists of five steps which are applicable to product improvements as well as new developments, is in fig.3 [49]

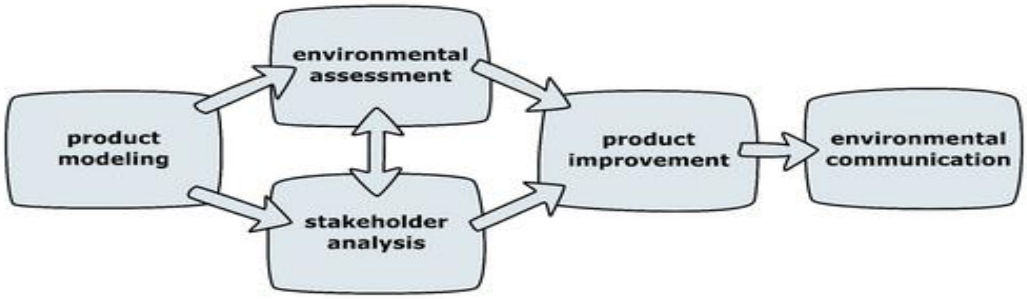

Fig. 6 the eco-design process

1. product modeling - the aim is to understand the product and all its functions in detail and to gather the necessary information needed for the following steps the environmental assessment and the stakeholder analysis. The product data are collected along the full life cycle of a product, which can be divided into five different stages, is in fig.4 [50]

[47] Martin Spirko, Daniela Spirkova, Dagmar Caganova, Mana Bawa (2016). Smart City 360° First EAI International Summit, Smart City 360° Bratislava, Slovakia and Toronto, Canada, October 13–16, 2015 Revised Selected Papers: Eco-Innovation in Manufacturing Process in Automotive Industry, ICST Institute for Computer Sciences, Social Informatics and Telecommunications Engineering
[48] https://www.iso.org/obp/ui/#iso:std:iso:14006:ed-2:v1:en:term:3.2.1
[49] https://www.tuwien.at/en/mwbw/ikp/klft-ecodesign/ecodesign/about-ecodesign
[50] https://www.tuwien.at/en/mwbw/ikp/klft-ecodesign/ecodesign/the-ecodesign-process/product-modelling

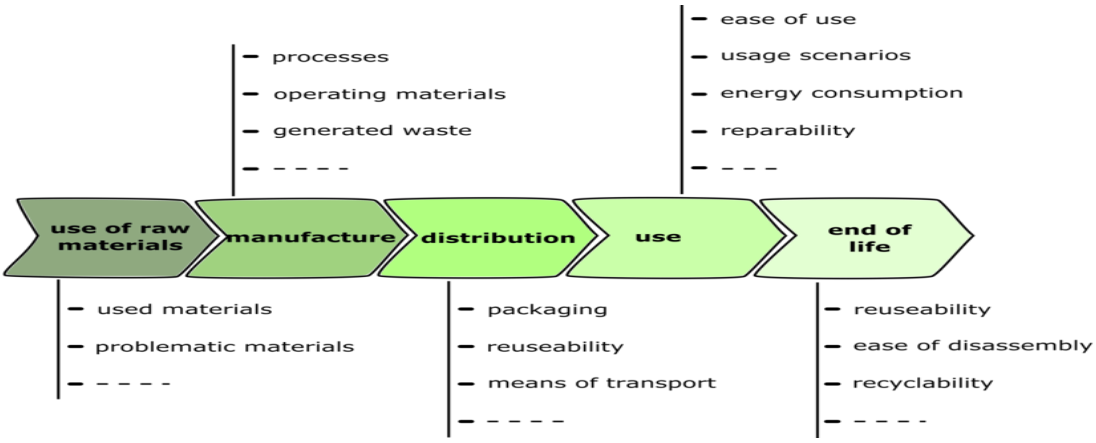

Fig. 7 the product life cycle

2. environmental assessment - we recognize a wide range of quantitative and qualitative methods, we can use the spectrum ranges from easy to use qualitative tools - such as the MET-Matrix, where the used materials, consumed energy and related toxicities are described - to more complex, quantitative methods, such as the Life Cycle Assessment (LCA), where products are modelled in a detailed manner to derive different environmental impact categories (e.g. Global warming potential [GWP], Eutrophication potential [EP], Abiotic resource depletion [ADP], etc.).[51]

3. stakeholder analysis - in addition to the insights from the environmental assessment there are environmental requirements from different stakeholders (customers, environmental regulations, Eco-labels, product-specific standards, competitors, etc.) which have to be considered within the product development. A distinction can be made between mandatory requirements, for example resulting from legal standards, such as the WEEE-Directive, and optional requirements, such as customer expectations. [52]

4. Thereby the product development process is addressed in five steps, which are: product specifications, functional structure, creativity sessions, product concept as well as embodiment design. [53]

5. After improving the environmental performance of a product, the results should also be communicated on the market. Possible advantages are a better corporate image, environmental awareness raising, an increased market share, etc. The ISO standards differentiate between three different types of environmental communication:

Type I: Eco-labels certified by an independent third party (ISO 14024)

[51] https://www.tuwien.at/en/mwbw/ikp/klft-ecodesign/ecodesign/the-ecodesign-process/environmental-assessment

[52] https://www.tuwien.at/en/mwbw/ikp/klft-ecodesign/ecodesign/the-ecodesign-process/stakeholder-analysis
https://www.faurecia.com/en/newsroom/what-people-really-think-about-eco-design-and-cars

[53] Wimmer, W., Züst, R., Lee, KM. (2004). Product Modeling. In: ECODESIGN Implementation. Alliance for Global Sustainability Bookseries, vol 6. Springer, Dordrecht. https://doi.org/10.1007/978-1-4020-3071-0_1 str.105

Type II: Self-declared environmental claims (ISO 14021)

Type III: Environmental product declarations (EPD) based on LCA results (ISO 14025)[54]

Environmental communication of a product refers to the way a company or manufacturer conveys information about the environmental impacts of their product to consumers and other stakeholders. It involves transparently sharing data, facts, and initiatives that showcase the product's environmental performance throughout its lifecycle - from raw material sourcing and manufacturing to use and disposal. Effective environmental communication is crucial for businesses aiming to demonstrate their commitment to sustainability and environmentally responsible practices. Environmental communication of a product can take many different forms. They are Eco-label certified by the independent third party, Self-declared environmental claims, Environmental product declarations based on LCA results.

In the case of the eco-label certification or self-declared environmental claims, most of the time LCA results are not required. For the environmental product declarations, however, LCA results of the product are required.[55]

Environmental communication is not just about highlighting the positives but also acknowledging the challenges and demonstrating a genuine commitment to sustainability. By communicating responsibly and authentically, companies can build trust with consumers and contribute to a more sustainable future.

By following the eco-design process, designers and engineers can create innovative and sustainable solutions that contribute to environmental conservation and the overall well-being of society. It aligns with the principles of the circular economy, where resources are kept in use for as long as possible, and waste is minimized.

8. FUNDING FOR ECO-INNOVATION

[54] https://www.tuwien.at/en/mwbw/ikp/klft-ecodesign/ecodesign/the-ecodesign-process/environmental-communications

[55] Wimmer, W., Züst, R., Lee, KM. (2004). Product Modeling. In: ECODESIGN Implementation. Alliance for Global Sustainability Bookseries, vol 6. Springer, Dordrecht. https://doi.org/10.1007/978-1-4020-3071-0_1 str.122

Let us see the EU funding programmes that provide financial support for green projects. The support for eco-innovation from EU is provided throw all different forms of funding from R&D to financing, and from small enterprises to infrastructure.

Community programs are an instrument of the European Union, which serves to deepen cooperation and solve common problems of EU member states. These programs are multi-annual and funded directly from the EU budget. The European Commission is in most cases responsible for implementing Community programs. There are also support mechanisms to facilitate eco-innovation and encourage private financing**.**

Horizon Europe is research and innovation framework programme running from 2021 to 2027. It supports top researchers, innovators and citizens to develop the knowledge and solutions needed for a sustainable, fair and prosperous future for people and our planet. Horizon Europe will leverage synergies across the EU funding programmes. The overall budget for the implementation of the Horizon Europe programme 2021-2027 will be EUR 95.5 billion.

Horizon Europe replaces Horizon 2020 as the EU Research and Innovation programme, **there are some lessons learned from Horizon 2020 interim evaluation:** support breakthrough innovation, create more impact through mission-orientation and citizens involvement, rationalise partnerships' landscape, reinforce openness, strengthen international cooperation, encourage participation.

Key novelties in Horizon Europe:

✓ European Innovation Council (EIC),

✓ EU missions, new approach to partnerships (Adaptation to Climate Change, Climate-Neutral and Smart Cities, Ocean, Seas and Waters, Soil Health and Food, Cancer),

✓ open science policy,

✓ extended association possibilities,

✓ spreading excellence.

Horizon Europe is focused to

✓ science and technology: fuel EU's scientific and technological excellence and the strengthen the European Research Area (ERA),

✓ society: tackle policy priorities, including green and digital transitions and Sustainable Development Goals,

✓ economy: boost Europe's innovation uptake, competitiveness and jobs.

Horizon Europe programme structure:

A. The 'main' Work Programme covers the following components of Horizon Europe: Pillar I – Excellent Science, Pillar II – Global Challenges and European Industrial Competitiveness, Pillar III – Innovative Europe, Part: Widening participation and strengthening the European Research Area (ERA),

B. Separate Work Programmes cover: the European Research Council (ERC), the Joint Research Centre (JRC), the European Innovation Council (EIC),

C. Horizon Europe is also implemented through the other Specific Programme (the European Defence Fund) and is complemented by the Euratom Research and Training Programme (each having a separate Work Programme). EURATOM research and training programme (2021-2025). Objective research and training activities to reduce risks in nuclear safety and security, development of safe nuclear technologies and optimal radiation protection. Key novelties: increased focus on non-power applications of radiation (medical, industrial, space), opening mobility opportunities for nuclear researchers through inclusion in Marie Skłodowska-Curie Actions. InvestEU for Research and Innovation (R&I): stimulates more investment in research and innovation, notably by the private sector; leverages and complements national/regional initiatives, no market distortion: intervention only to address financing gaps in the R&I delivery. [56]

LIFE is a programme for the Environment and Climate Action, is the EU's funding instrument for the environment and climate action. The budget for the 2021-2027 period is around €5.4 billion.

The LIFE 2021-2027 program is divided as follows:

A. "Environment" area, which includes: Nature and Biodiversity, Circular Economy and Quality of Life,

B. "Climate action" area, which includes: Climate change mitigation and adaptation, Clean energy transition

It incorporates the novelties introduced by the LIFE Regulation including:

✓ strengthened action on nature and biodiversity with an extended scope and a dedicated support to coordinated programmes of action in the Member States. This will contribute to the biodiversity ambition of providing 7,5 % in 2024 and 10 % in 2026 and in 2027 of annual spending under the multiannual financial framework to biodiversity objectives,

[56] https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en#:~:text=%20Horizon%20Europe%20%201%20Apply%20for%20funding.,and%20innovation%20missions%20to%20increase%20the...%20More%20

✓ a 61% target for expenditures supporting climate objectives in line with the ambition of reaching climate neutrality by 2050,

✓ strengthened action on energy efficiency and renewable energies,

✓ an extended opportunity for synergies with other funds and programmes, in particular through the Seal of Excellence and cumulative funding,

✓ an increased impact to meet societal challenges by combining efforts with Horizon Europe, in particular its Missions in support of the European Green Deal (Climate adaptation, Climate neutral cities, Oceans and Soils),

✓ an expanded geographical scope involving Overseas Countries and Territories (OCTs).[57]

Innovation Fund (IF) contributes to greenhouse gas (GHG) reduction by supporting projects like carbon capture and storage, innovative low-carbon technologies, generation of renewable energy and energy storage. IF, financed from revenues from the EU Emissions Trading System, may amount to around € 10 billion for the period up to 2030.

It is focused on:

✓ innovative low-carbon technologies and processes in energy intensive industries (steel, cement, glass, chemicals, paper, etc.),

✓ carbon capture and utilisation (CCU),

✓ construction and operation of carbon capture and storage (CCS),

✓ innovative renewable energy generation,

✓ energy storage.

It is designed to take into account the lessons learned from its predecessor, the NER300 programme. It is bigger and better in several ways:

✓ open to projects from energy intensive-industries,

✓ improves the risk-sharing for projects: its grants cover up to 60% of the additional capital and operational costs of innovation,

[57] https://cinea.ec.europa.eu/programmes/life_en https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/life/wp-call/2021-2024/wp_life-2021-2024_en.pdf https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2021.172.01.0053.01.ENG&toc=OJ%3AL%3A2021%3A172%3ATOC

✓ provides support in a more flexible way, following the cashflow needs of the project through pre-defined milestones,

✓ simpler selection process,

✓ stronger synergies with other EU funding programmes,

✓ streamlined governance and simplified decision-making.[58]

The InvestEU Programme provides long-term funding to companies and supports Union policies in sustainable recovery about InvestEU.

One of the EU's top priorities is the promotion of investment for recovery, green growth, employment and well-being across Europe. **The InvestEU Programme supports** sustainable investment, innovation and job creation in Europe. It aims to trigger more than €372 billion in additional investment over the period 2021-27.

The InvestEU Programme builds on the successful model of the Investment Plan for Europe, the Juncker Plan. It will bring together, under one roof, the European Fund for Strategic Investments and 13 other EU financial instruments.

The Programme consist of:

A. The InvestEU Fund aims to mobilise more than €372 billion of public and private investment through an EU budget guarantee of €26.2 billion that backs the investment of implementing partners such as the European Investment Bank (EIB) Group and other financial institutions.

B. The InvestEU Advisory Hub provides technical support and assistance including capacity building to project developers and entities – private and public - helping with the preparation, development, structuring and implementation of investment projects.

C. The InvestEU Portal brings together investors and project promoters on a single EU-wide platform, by providing an easily-accessible and user-friendly database of investment opportunities available within the EU.[59]

[58] https://cinea.ec.europa.eu/programmes/innovation-fund-new_en

[59] https://investeu.europa.eu/what-investeu-programme_en

The Single Market Programme (SMP) with a budget of 4.2 billion EUR over this MFF covers the single market, competitiveness of enterprises, including small and medium-sized enterprises, the area of plants, animals, food and feed, and European statistics.

Separate programmes for Union action existed previously in these fields and some activities were financed directly under internal market budget lines. The SMP brings together these aspects to streamline and exploit synergies and provide for a more flexible, transparent, simplified and agile framework to finance activities aiming at a well-functioning sustainable internal market.

Priorities:

✓ The Internal Market: The SMP aims to ensure that citizens and businesses enjoy the benefits of the internal market and through a range of tools ensure they are aware and can exercise rights and take advantage of opportunities in full. Through the Internal Market strand, the SMP will implement and enforce rules and develop them further in areas including company and contract law, anti-money laundering and the free movement of capital. The SMP will ensure financial services meet the needs of consumers, civil society and end-users and enhance tools and expertise of the Commission to enforce effectively competition rules in the digital economy.

✓ Effective standards: The SMP will provide financial support to organisations that develop European wide standards to ensure that products and services meet an agreed level of quality and safety.

✓ Competitiveness (particularly of SMEs): The SME Strand of the SMP will provide various forms of support to businesses in particular SMEs in order to foster a favourable business environment and entrepreneurial culture, facilitate access to markets, reduce administrative burden, support uptake of innovation and address global and societal challenges.

✓ Protect consumers: The SMP helps make sure products on the market are safe and consumers know the rules, and helps national authorities to work efficiently together and communicate swiftly.

✓ Food Safety: Through the Food Strand, the SMP will prevent, control and eradicate animal diseases and plant pests, support sustainable food production and consumption, and the improvement of animal welfare, and improve the effectiveness, efficiency and reliability of official controls.

✓ European statistics: The SMP will provide funding to national statistics institutes for the production and dissemination of high-quality statistics to monitor the economic, social,

environmental and territorial situation, thereby providing for evidence-based decision making in the EU and measuring the impact of EU initiatives.[60]

Cohesion policy in 2021-2027 EU funds allocated to Cohesion Policy amount to EUR 392 billion. With the national co-financing, about half a trillion euro will be available to finance the programmes in the EU regions and countries. The support for the programming period 2021–2027 co-funded from the EU funds are in EU countries divided into different programmes: the national operational programmes and the international cooperation programmes. The funding goes throw a system of calls focused on specific issue.

Cohesion Policy is delivered through specific funds: The European Regional Development Fund (ERDF), to invest in the social and economic development of all EU regions and cities. The Cohesion Fund (CF), to invest in environment and transport in the less prosperous EU countries. The European Social Fund Plus (ESF+), to support jobs and create a fair and socially inclusive society in EU countries. The Just Transition Fund (JTF) to support the regions most affected by the transition towards climate neutrality. EU funds support economic development in all EU countries, in line with Sustainable Europe 2030 objectives. [61]

Erasmus+

It is the European Union's program to promote education, training, youth and sport in Europe. The new Erasmus + program will promote four horizontal priorities in the projects: inclusion, digitization, sustainable development and active participation. It aims to contribute to the introduction of new practices that improve the quality and relevance of education, training and youth systems at national, regional and local levels. The good news is the significant increase in the budget of the new Erasmus + program. It has doubled for the 2021-2027 programming period to € 28.4 billion, which represents an opportunity to carry out part of your studies and internships abroad, apprenticeships or staff exchanges in all areas of education and many other activities. [62]

The European Solidarity Corps

It is the new European Union initiative that enables young people to show solidarity with communities in their respective country as well as abroad. Young people between 18-30 years can be participated under the European Solidarity Corps framework. The European Solidarity Corps has an overall indicative financial envelope of EUR 1.009 billion of the EU Budget for the period 2021-2027. With a dedicated budget of over €1 billion for 2021-2027,

[60] https://competition-policy.ec.europa.eu/single-market-programme-smp_en
[61] https://ec.europa.eu/regional_policy/2021-2027_en#7
[62] https://erasmus-plus.ec.europa.eu/

the new programme offers opportunities to some 275,000 young people to help address societal and humanitarian challenges through volunteering or by setting up their own solidarity projects. The new European Solidarity Corps supports overarching EU political priorities, facilitating organisations and young people to address them. Four strands are particularly highlighted: promoting of inclusion and diversity; making projects 'greener' and encouraging environmentally sustainable and responsible behaviour among participants and participating organisations; supporting the digital transition through projects and activities that boost digital skills, foster digital literacy and develop understanding of the risks and opportunities of digital technology; promoting participation of young people in democratic processes and civic engagement. [63]

Eco-innovation is often place-based and emerges from the interaction between various stakeholders. The diffusion of best practices also spills over via value chains. This is now fully recognized in the Commission's toolbox. **The tools** are intended to facilitate stronger cooperation and joint action between all interested partners. And further sources of funding can support eco-innovation, especially SMEs and start-ups.

Recovery and Resilience Facility

In the National Recovery and Resilience Plans of Member states, 37% of expenditures will be earmarked for climate-related spending.

As part of a wide-ranging response, the aim of the Recovery and Resilience Facility is to mitigate the economic and social impact of the coronavirus pandemic and make European economies and societies more sustainable, resilient and better prepared for the challenges and opportunities of the green and digital transitions.

The Facility is a temporary recovery instrument. It allows the Commission to raise funds to help Member States implement reforms and investments that are in line with the EU's priorities and that address the challenges identified in country-specific recommendations under the European Semester framework of economic and social policy coordination. It makes available €723.8 billion (in current prices) in loans (€385.8 billion) and grants (€338 billion) for that purpose.

The RRF helps the EU achieve its target of climate neutrality by 2050 and sets Europe on a path of digital transition, creating jobs and spurring growth in the process. [64]

The European Institute of Innovation and Technology (EIT)

[63] https://eusolidaritycorps.eupa.org.mt/
https://ec.europa.eu/commission/presscorner/detail/en/IP_21_1725
[64] https://commission.europa.eu/business-economy-euro/economic-recovery/recovery-and-resilience-facility_en#national-recovery-and-resilience-plans

The EIT is a part of third pillar of the program Horizon Europe - Innovative Europe, which aims to stimulate breakthrough technological solutions and innovative ecosystems. It also cooperates with other EU funding initiatives and schemes.

The EIT is an independent body of the European Union set up in 2008 to deliver innovation across Europe. The EIT brings together leading business, education and research organisations to form dynamic cross-border partnerships. These are called Knowledge and Innovation Communities (KICs) and each is dedicated to finding solutions to a specific global challenge. KICs innovative products and services, start new companies, and train a new generation of entrepreneurs. EIT InnoEnergy (achieving a sustainable energy future for Europe), EIT Climate-KIC (efforts to accelerate the transition to a zero-carbon economy) and EIT RawMaterials (recovery of raw materials) closely related to eco-innovation. [65]

Smart specialisation platform

Strategies for research and innovation-driven growth

The S3 Platform provides advice to EU countries and regions for the design and implementation of their Smart Specialisation Strategy (S3). [66]

European Cluster Collaboration Platform

The European online hub for industry clusters, strengthening the European economy through collaboration. [67]

Industrial aliens

Industrial alliances (European Raw Materials Alliance, European Clean Hydrogen Alliance, European Battery Alliance, Circular Plastics Alliance, European Alliance for Industrial Data, Edge and Cloud, Industrial Alliance on Processors and Semiconductor Technologies, Renewable and Low-Carbon Fuels Value Chain Industrial Alliance) are a tool to facilitate stronger cooperation and joint action between all interested partners.

Industrial alliances can play a role in achieving key EU policy objectives through joint action by all the interested partners. They can make European economies more resilient, ensure the global competitiveness of our industry (including SMEs), and support a successful transition to a carbon-neutral continent by 2050 and make Europe fit for the digital age. [68]

European Partnerships in Horizon Europe

European Partnerships bring the European Commission and private and/or public partners together to address some of Europe's most pressing challenges through concerted

[65] https://eit.europa.eu/
https://www.innoenergy.com/
[66] https://s3platform.jrc.ec.europa.eu/
[67] https://clustercollaboration.eu/
[68] https://single-market-economy.ec.europa.eu/industry/strategy/industrial-alliances_en

research and innovation initiatives. They are a key implementation tool of Horizon Europe, and contribute significantly to achieving the EU's political priorities.

By bringing private and public partners together, European Partnerships help to avoid the duplication of investments and contribute to reducing the fragmentation of the research and innovation landscape in the EU. [69]

Initiative on substantiating green claims

It is important that claims on the environmental performance of companies and products are reliable, comparable and verifiable across the EU. Reliable environmental information would allow market actors – consumers, companies, investors – to take greener decisions. Any unfair competition coming from "green washing" will be put under check with this Commission iniciative.

This initiative has close links to other policies announced in the Circular Economy action plan:

- ✓ the revision of EU consumer law to empower consumers for active participation in the green transition,
- ✓ a sustainable product policy initiative,
- ✓ the farm to fork strategy.

All these initiatives will seek to establish jointly a coherent policy framework to help the Union to make sustainable goods, services and business models the norm and to transform consumption patterns in a more sustainable direction. They aim to reduce significantly the environmental footprint of products consumed in the Union and contribute to the overall policy objective of EU climate neutrality by 2050. [70]

Foreign aid

Beside the European Union the funding is also provided by another international organisations or European states – the main providers of funding are Visegrad Group, EEA and Norway grants and The Swiss contribution.

EEA and Norway Grants

The EEA and Norway Grants are Iceland, Liechtenstein and Norway's contribution to reducing economic and social disparities in Europe and to strengthening bilateral relations with 15 beneficiary countries in Northern, Central and Southern Europe. The support provided through the Grants reflects the priorities set out in the 'Europe 2020' strategy – the European Union's ten-year growth strategy for smart, sustainable and inclusive growth.

[69] https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/european-partnerships-horizon-europe_en
[70] https://environment.ec.europa.eu/topics/circular-economy/green-claims_en

The following five priority sectors have been agreed between the donor countries and the European Union: Innovation, Research, Education and Competitiveness, Social Inclusion, Youth Employment and Poverty Reduction, Environment, Energy, Climate Change and Low Carbon Economy, Culture, Civil Society, Good Governance, and Fundamental Rights and Freedoms, Justice and Home Affairs.The priority sectors include 23 programme areas. The EEA Grants and Norway Grants both focus on identical priority sectors and programme areas.[71]

The Swiss contribution

Since 2007, Switzerland has been participating in various projects designed to reduce the economic and social disparities in an enlarged EU. Switzerland decides autonomously which projects it will support and agrees this directly with the partner countries. [72]

Visegrad fund

The International Visegrad Fund is a donor organization founded in 2000 by the governments of the Visegrad Four countries - the Czech Republic, Hungary, Poland and Slovakia. The fund's annual budget is € 10 million, which is backed by equal contributions from V4 governments.[73]

The European Energy Efficiency Fund (eeef)

It is an innovative public-private partnership dedicated to mitigating climate change, achieving economic sustainability of the Fund and attracting private, and public capital into climate financing. The aims to provide market-based financing for commercially viable public energy efficiency and renewable energy projects within the 28 EU Member States. It contributes with a layered risk/return structure to enhance energy and foster renewable energy by unlocking the substantial potential in the European public sector in the form of a targeted public private partnership.[74]

[71] https://eeagrants.org/
[72] https://www.eda.admin.ch/eda/en/fdfa/foreign-policy/european-politics/swiss-policy-europe.html
[73] https://www.visegradfund.org/
[74] https://www.eeef.lu/home.html

As professionals it is our role to accept our responsibility for the consequences of our actions on wider society and environment. To be more professional, conscious and responsible towards people and planet in the field of project management, the above presented tools and methods can be put in place.

And let us end this discourse with a great thought of Margaret Mead, who said that: "*Never doubt that a small group of thoughtful, committed, organised citizens can change the world; indeed, it's the only thing that ever has.*"

Materials related to Responsible Project Management can be approached here: https://www.responsiblepm.com/educational-material

The task of the students is to fill in the "Responsible Project Management Canvas" as first in the beginning of the semester; as second the students are required to work on the "Responsible Project Management Case Study Template" where they will be presenting their own/team project idea from their study field and have it ready before the end of the semester.

Resources to be used for the purposes of online course within O5:

Videos on the subject: https://www.youtube.com/watch?v=Ho9LtN9nYKs and https://www.youtube.com/watch?v=pRXlCroyPfw

Further reading on the subject of Green Project Management: https://www.amazon.com/Green-Project-Management-Richard-Maltzman/dp/1439830010

Further reading on the subject of Sustainable Project Management: https://greenprojectmanagement.org/the-gpm-reference-guide-to-sustainability-in-project-management

Further reading on the subject of Responsible Project Management: https://www.responsiblepm.com/guide

Further studies on the subject e.g. here: https://greenprojectmanagement.org/certification-and-training/training

Further tips for Environmental and Sustainable Management: https://www.brighthubpm.com/project-planning/34627-thirty-tips-for-environmental-and-sustainable-project-management/

Further tips for ecologically sustainable solutions in all kinds of project management activities based on collected good practices: https://thinktwice.management/wp-content/treasure_chest/

Ecodesign and Ecoinnovations

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Ecoinnovations project management

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