Green Entre 4Future

Be the Climate Change Ambassador - Green Toolkit

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INTRODUCTION

This toolkit is aimed at being a useful instrument for many groups and kinds of people, from activists and young people eager to work for the environment, to youth entrepreneurs, NEETs and even policy makers and consumers. Each category of people can find their learning objectives and hold them as an indication on what to search for in the following chapters.

The toolkit name is “Be the climate ambassador”. It provides a comprehensive educational panorama with practical digital tools for green entrepreneurship education, introduces youth in a fun way to European policies about environmental issues, understands climate change and develops entrepreneurial ideas.

The toolkit is addressed to young persons, to make them feel the impact of climate change, and it will be a valid support tool for youth workers from all over Europe involving people with diverse backgrounds, including the most disadvantaged.

The toolkit will provide basic knowledge, practical gamification tools, with a particular focus on green entrepreneurship education.

The innovative aspect of this toolkit is that it will not be a statistic set of resources, but it will follow a flexible approach and it will include valuable, blended material (employing both informal and non-formal education methodologies), guidelines and templates, practical tips for using the developed material and other useful tools, educational audio-visual resources, relevant theory, etc.

The toolkit is divided into three main chapters. The aim of the first chapter is to give to the reader a theoretical background, exploring principles about green project management. It will also take cases and good examples to better explore how best practices can be concretely applied. It is divided in two main subsections:

- main challenges of this project (such as the question of transports, the digital communication, the travel sustainability, the energy, the C0” emissions, the consumption of water etc.)
- green competencies, and so the reader will learn about entrepreneurship, design and thinking, climate migrations etc. This section will also examine the Double Diamond Framework (a structured design approach to tackle challenges in four phases) and some Business Model Canvas.

The second chapter is about tools and techniques, this section will illustrate the techniques and the methodologies of approach to the learners, according to the specificities of the target group (young people, NEET, new graduates, immigrants, etc.) The discussion will revolve around themes like green value proposition tools, green value proposition canvas, green impact analysis, sustainability reporting, business model canvas (describing its components, presenting questions through which it allows the green entrepreneur to reflect and become familiar with the concept of sustainable business models), personas and jobs to be done. There is also a module whose aim is to contribute to the debate on the impact that climate change has on migration, on the potential contribution that the latter can make to adaptation processes in response to the negative effects of the current climate crisis and on the importance of prevention to stem this phenomenon.

The last chapter is the one of the game, which uses a creative way for introducing techniques and tools, using quizzes, scenarios and environmental assets.

Learning Objectives

The learning objectives of this toolkit can be divided depending on the group any individual can recognize in. Each group will understand from the first pages how it's needed to work through a more sustainable world through the green transition in each aspect of their life, from buying and consuming attitudes, to entrepreneurship, to awareness and activism and policies.

Young Entrepreneurs and start-uppers will find here guidelines, theoretical advice, and possible activities to prepare themselves for a new, greener way to do business. They will:

- **Understand:** the importance of investing in green entrepreneurship, how to develop a business model canvas, the technologies available as well as the policies and legal instruments, the need of preparing young entrepreneurs with regards to skills, knowledge, and competencies.

- **Evaluate:** the different solutions to select the more sustainable and suitable ones to the business in question.

Young people who'll enter the labor market, but policymakers and trainers as well will:

- **Understand:** the need to prepare themselves (young people) for the labor market, but with a better focus on how to strive for a more sustainable work environment relating to skills, competencies, and knowledge. They will also see the characteristics of the labor market in terms of transversal skills and the benefits of starting a business thinking from the first minute to environmental (but also social) sustainability and ecology.

- **Develop:** after having identified the so-called green skills, they will develop them to make their entrance to the job market in the best way for them and the planet and society.

Consumers, activists and enthusiasts of ecology and environment will:

- **Understand:** the need of the Green Transition in detail, as well as the challenges ahead and the instruments, from policies and law as well as technology and society, to assess and confront them. They will also be able to see and understand how sustainable choices and policies can have an impact on the big picture, from the smallest actions.

- **Educate:** the broad public and fellow consumers about climate change, its challenges, and our weapons. They will be able to define them, raise awareness about them in each aspect of their life, understand the impact of the challenges and everybody's choices, and then spread the knowledge to their community of reference and the part of society in which they live.

- **Analyze:** how different consuming behaviors impact on the broader environment and how to minimize it, understand and describe the life cycle of the products they consume.

- **Apply:** their knowledge to raise awareness and work to the making and transformation of each behavior, in the workplace and outside, in a more sustainable way.

CHAPTER 1 - THEORY

This chapter intends to provide introductory references for future green entrepreneurs as it provides them with important definitions and principles, according to their role as an entrepreneur of Sustainable Business Projects. In addition, this chapter also addresses two sustainability-based methodologies for entrepreneurship and for future entrepreneurs to question themselves about the various aspects they should take into account in the product/service they are going to develop.

In this sense, it serves as a useful tool for your project to be more sustainable and contribute in the best way to the environment, society and economically sustainable.

In addition to the definitions, principles and methodologies based on sustainability, the chapter also addresses two examples of Business Case Projects.

What you will learn

With this chapter 1, the future green entrepreneur will able to gain knowledge about the:

a. Green entrepreneur role;

b. Concept of eco-innovation;

c. Definition of sustainable projects and management of sustainable project, and;

d. Two methodologies based on sustainability.

Who should read this chapter

Future green entrepreneurs; entrepreneurship mentors; Youth workers; Coaches; Business person and managers

Key concepts

- Sustainable projects
- Green entrepreneur
- Eco-innovation
- Triple Bottom Line method
- Green Project Management Methodology

Definitions, Principles and Sustainable Methodologies

Learning objectives:

- Define sustainable projects
- Recognizing the role of the green entrepreneur
- Learning the dimensions of the model GPM

Duration: One hour

Application cases:

Two 2 Business Case Projects

We present two business cases projects as a Green Value Proposition. One of them, it's about the creation of Vegetable Gardens for the promotion of Organic Agriculture using products that derive Home Composting. The other is based on a circular economy model, through the implementation of : a "Waste Recovery Center for Electrical and Electronic Equipment" and "Furniture Equipment Recovery Center.

Example Business Case Project 1- **Recover is to win+**

Example Business Case Project 2- **Circular is Helping**

Content summary (100 words max):

This chapter intends that the future Green entrepreneur, understands the definition of sustainable projects, eco-innovation, understands the role of the green entrepreneur and be familiarized with the Triple Bottom Line method and the methodology of Green Project Management (GPM). Using it whenever necessary, this will allow the entrepreneur to evaluate his product/service in three dimensions: Environment, People and Economy. In general, this chapter intends for the future entrepreneur to obtain sufficient knowledge to build a value proposition taking into account the pillars of sustainability.

Who is a Green Entrepreneur?

A green entrepreneur or eco-entrepreneur is an entrepreneur who starts his own business from innovative, environmentally friendly ideas that solve existing problems. All products and services available are designed to reduce environmental, social and economic impact. Thus, the traditional business model is replaced by one that includes environmental sustainability and environmental protection in the decisions to be taken [1].

Eco-entrepreneurship is associated with a set of principles, for example [2]:

- Waste reduction (solid, liquid, energy);
- Reduction of emissions (carbon, air pollutants);

- Reduction in the use of hazardous chemical waste;
- Reuse of industrial waste as raw material; Sustainable raw material;
- Sustainable use of energy; reduce excess.

This is done by using and adapting the appropriate methods, tools and techniques to lead the project team, engage stakeholders and move the project forward, while safeguarding society, the environment and human rights.

What is Eco-innovation?

Schumpeter associated Entrepreneurship with innovation, according to this author the essence of Entrepreneurship lies in the perception and use of new business opportunities; the entrepreneur is responsible for processes of creative destruction. According to the theory of creative destruction, entrepreneurs distort the market equilibrium, becoming agents of change and growth that act to introduce new market, product or innovation combinations [3]. In doing so, they differentiate themselves from the competition, either by presenting innovative products and/or services, or by using new technologies and/or processes.

For example, “any innovation that translates into an important step towards sustainable development, reducing the impact of our modes of production on the environment, strengthening nature’s resilience to environmental pressures or using natural resources more efficiently and responsibly” [2], constitutes a green innovation, or Eco-innovation.

Eco-innovation [2], by promoting new processes, technologies and services that make economic activities more ecological (turning environmental challenges into business opportunities, in particular for Small and Medium Enterprises [2]), make it possible to optimize growth potential and, at the same time, contribute to finding answers to challenges such as climate change, resource scarcity and the decline in biodiversity [1]. In other words, Eco-innovation is strictly related to the way in which natural resources are used and the patterns of production and consumption, as well as the concepts of eco-efficiency and eco-industry.

What are Sustainable Projects?

GPM defines a project as “an investment that requires a set of coordinated activities carried out over a finite period of time in order to achieve a single outcome in support of the desired outcome”. For a project to be sustainable, the focus must be placed on creating value. Project requirements and constraints should include mitigating negative environmental, social and economic impacts and achieving the benefits outlined in the business case Project.

What is Sustainable Project Management (or Green Projects)

Sustainable Project Management is the application of methods, tools and techniques to achieve a declared goal, taking into account the entire life cycle of the project result to ensure a positive net environmental, social and economic impact.

As project management matures, your view of what project success is. The entrepreneur is now going beyond his traditional focus on time, cost and scope to emphasize the achievement of

objectives in the business case, while maintaining the focus on the asset life cycle. The next step in the evolutionary process is to adopt a sustainability ethos where projects do not come at the expense of the planet and its limited resources.

The creation and management of projects must make greater efforts to address the social and environmental impacts of each project, so that the world in which we live and that we are borrowing from future generations can regenerate and be sustained. In order to take this step, the creation and management of the business project must come to have a broader and more global view of the impact and value of the project, as illustrated below.

Source: https://greenprojectmanagement.org/about/what-is-sustainable-project-management

It must contain precisely a value proposition based on the pillars of sustainability.

We will see, following the proposal of the British sociologist and consultant John Elkington [4] formulated the concept Triple Bottom Line –" the tripod of sustainability"- an expression currently enshrined and also known as the "Three Ps" (people, planet and profit).

What does it mean Triple Bottom Line?

In 1987, the UNO has launched the "Our Common Future" report to the World Commission on Environment and Development, introducing the concept of sustainable development in society. Until then, it was rare to think about the limitation of natural resources and the corporate impact on the environment.

A few years later (1994), John Elkington created the Triple Bottom Line or the tripod of sustainability. The method incorporates ecological vision in companies based on three principles: People, Planet, Profit, also known as the Sustainability 3Ps.

Sustainability is no longer considered a superfluous issue, and today being a sustainable corporation is more than a status, meaning to earn the respect of its consumers and partners. Therefore, the Triple Bottom Line gained so much importance and brought a new mindset to managers.

For easy viewing, the concept is usually represented by the intersection of three circles, each representing a “P”.

The three pillars of sustainability

The Sustainability Tripod inaugurated a new way for companies to look at the development of their businesses: the economic aspect should not be the only indicator of a company’s performance and success.

In fact, economic, social and environmental factors – which were seen as incompatible – are perfectly complementary and are directly intertwined. Financial performance is related to the sustainability of any business.

Check out the three pillars of sustainability:

- PEOPLE – Employees are the most important asset of companies and this is further proof of how essential it is to take care of the organizational culture. The treatment that your team receives and the working conditions are the main aspects that should be prioritized by sustainable organizations, from respect and compliance with labor standards in force to the quality of the organizational climate.

- PLANET – It refers to the impacts that the company’s activities generate on the environment and what measures are taken to avoid or mitigate the risks of this interference. There are numerous ways to adapt the production chain by incorporating new manufacturing measures, other materials or equipment that do not pollute. Technology has contributed immensely to innovative solutions to make industries less harmful to the ecosystem.

- PROFIT – Adopting measures for employees and the planet result in positive numbers at the end of the month. When the brand invests in the team and incorporates sustainable actions, it consequently improves productivity, competitiveness and results. Another fundamental point is the long-term vision, “sweet spot”, in which its customers perceive the sustainable responsibility of the brand and see added value in its service, establishing a relationship of lasting partnership and identification between the interests of stakeholders and the corporation.

To these 3P’s, the GPM, exposes more 2 P’s: Products and processes and here we present the following figure (Fig. 1) adapted to the purpose of this particular chapter:

Based on these last two P’s (products & processes) in the next chapter we present a set of seven tools that allow the green entrepreneur to create solutions aligned to sustainability.

However, before we jump into these tools, we leave here two introductory videos for a better understanding, one about a design method for green entrepreneurship and another about 14 Green Business Ideas For Startup Entrepreneurs.

- https://youtu.be/7mC9xaJC2dQ (6:14 minutes)
- https://www.youtube.com/watch?v=ez09N1nH_OY (1:38 minutes)

Next, we will introduce two real examples of two Business Case Projects for greater clarity and appreciation of the content of this chapter for learners and so that they can analyze the strategic

alignment of the two Business Case Projects with the well-known United Nations Sustainable Development Goals.

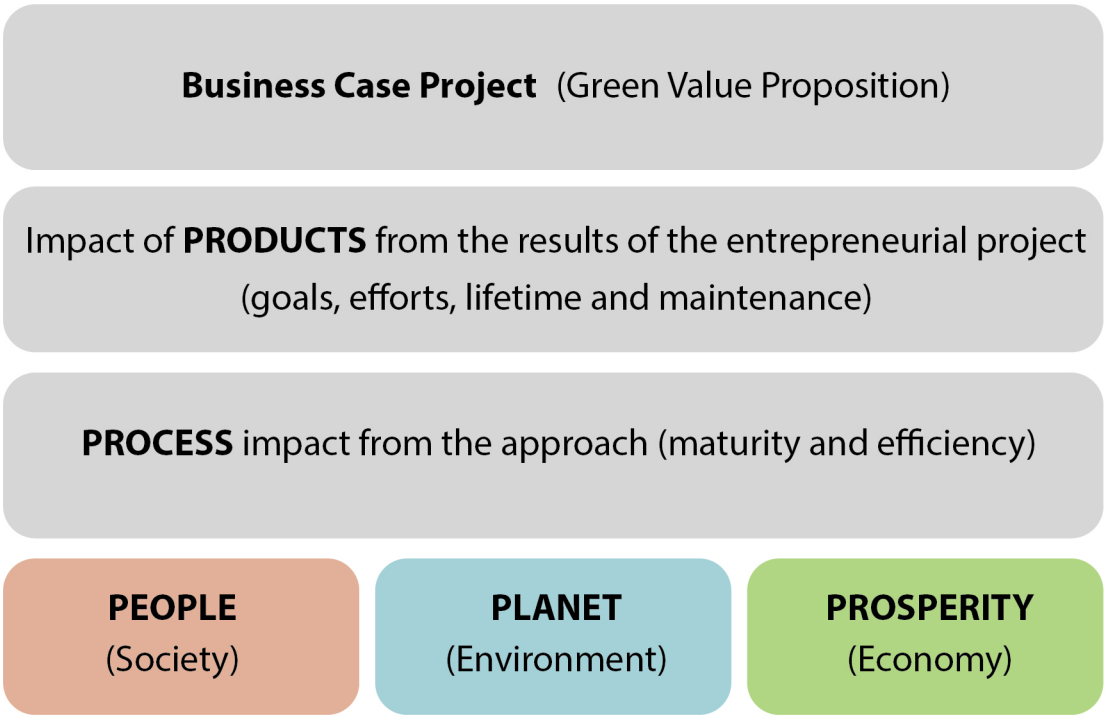


Figure 1 - The origin of the 5P's

Business Case Project Title N.º 1

Recuperar é Ganhar+ (Recover is to win+)

Description

The Business Case Project "Recuperar é Ganhar+" aims to innovate in two distinct cycles of use of certain products, through its specific objectives and under the circular economy, in a logic of greater fficiency and effectiveness according to the Action Plan for the Circular Economy in Europe.

Specifically, the project aims to implement: A "**Waste Recovery Center for Electrical and Electronic Equipment"** and **"Furniture Equipment Recovery Center"**.

In parallel, the Business Case Project is accompanied by a strong strategy focused on communication

and dissemination for the introduction of an innovative distinctive mark for a Company that tries to operate in an intelligent + Green territory in the management of its community resources and, in particular, with a new model of management of this type of waste treated by the respective centers. At this point, several local stakeholders also will play an important role.

Main Goal

Within the scope of the Action Plan for the Circular Economy, and based on a circular economy model, it is intended to create measures / actions / initiatives or local solutions that allow the reuse and extension of the useful life of furniture products and electrical and electronic equipment in a territory that is intended to be intelligent in terms of its way of managing such types of waste and in an informal education perspective, showing the local community the associated savings and their positive impacts for the community.

Sustainable Development Goals associated with the Business Case Project

- SDG 11.6: By 2030, reduce the negative environmental impact per capita in cities, including by paying special attention to air quality, municipal waste management and others;
- SDG 11.8: Support positive economic, social and environmental relations between urban, peri-urban and rural areas, strengthening national and regional development planning;
- SDG 12.4: By 2020, achieve environmentally sound management of chemicals and all wastes, throughout their entire life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil, minimize their negative impacts on human health and the environment;
- SDG 12.5: by 2030, substantially reduce waste production through prevention, reduction, recycling and reuse;
- National targets for the prevention, reuse and recycling of specific flows: National Waste Management Plan — PNGR, Strategic Plan for Urban Waste — PERSU 2020;
- SDG 17.14: Policy and Institutional Coherence: Increase Policy Coherence for Sustainable Development;
- EU: Circular Economy Action Plan — Waste and Secondary Raw Materials.

Complementary indicators:

- Number of citizens using the services provided;
- Number of awareness-raising actions and their impact;
- Ratio number of repaired products vs. new products sold.

Business Case Project Title N.º 2

Circular é Ajudar (Circular is Helping)

Description

The Business Case Project "Circular é Ajudar" aims to articulate, through a network of cooperation, a common strategy for the Greater Metropolitan Region Home Composting and in the creation of Vegetable Gardens for the promotion of Organic Agriculture.

It is intended that its beneficiaries of the Vegetable Gardens adopt products that derive Home Composting in the gardens and simultaneously promote organic production.

Final beneficiaries can sell their organic products at local fairs or for their own consumption. Organic waste from consumption follows the logic of the green economy and will be waste that enters the composting chain. In addition, the surplus of the final product of the home-made powder can also be sold to other farmers.

Main Goal

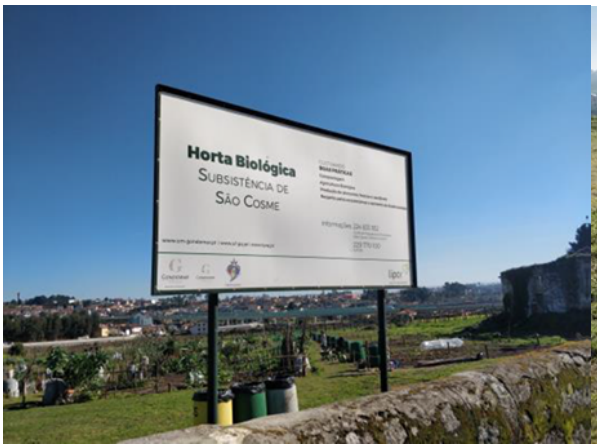
Within the scope of the Action Plan for the Circular Economy, and based on a circular economy model, specifically, this Business Case Project aims to:

a. provide plots for the implementation of the organic vegetable garden;

b. make available a plot of 25 or 50 square meters, free of charge or at an amount indicated in the use agreement, and for a defined period, to Users (final beneficiaries), for home composting and the cultivation of a vegetable garden in of organic production.

Sustainable Development Goals associated with the Business Case Project

- SDG 12.5: by 2030, substantially reduce waste production through prevention, reduction, recycling and reuse (Action 1);
- SDG 8.4: Decouple economic growth from environmental degradation (Action 2);
- SDG 15.2,.3,.9,.10: protect terrestrial life (Action 7).



Complementary indicators:

- No. of citizens using the vegetable garden services provided;
- Impact of attributed tax benefit;
- Gross added value generated.

CURIOSITY ABOUT COMPOSTING

Did you know that about 40% of our urban waste is compostable?

Composting is a biological, aerobic process in which organisms transform organic matter into a soil-like material called an organic improver. In home composting it is important to understand how to create the ideal conditions in order to produce a quality soil improver.

Do you want to produce your own natural fertiliser that is great for your garden?

Source:https://www.lipor.pt/pt/sensibilizar/compostagem-caseira-e-comunitaria/a-compostagem-2

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[2] Ganilho, E. (2015, Outubro, 15-18). Empreendedorismo no contexto de uma economia verde: perspetivas futuras. 5ª conferência Ibérica de Empreendedorismo, Oeiras, Portugal.

[3] SCTE-IUL & SPI Ventures. (2013). 2004-2013: Uma década de empreendedorismo em Portugal. GEM Portugal 2013.

[4] ELKINGTON, J.(2001). Canibais com garfo e faca. São Paulo: Makron Books

ELECTRONIC REFERENCES

[1] https://imprintplus.org/documentfiles/IO8_tutorial_final_PT_compressed.pdf

COMPLEMENTARY ELECTRONIC REFERENCES

Other EU Waste from Electrical and Electronic Equipment sources of information for consultation:

- Main law:

  https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02012L0019-20180704

- Connected topics:

- Chemicals: https://ec.europa.eu/environment/topics/chemicals_en

- Circular economy: https://ec.europa.eu/environment/topics/circular-economy_en & https://ec.europa.eu/environment/strategy/circular-economy-action-plan_en

- Waste and recycling: https://ec.europa.eu/environment/topics/waste-and-recycling_en

- Connected Commission priorities - European Green Deal: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

The Sustainable Development Goals

- The Sustainable Development Goals: https://sdgs.un.org/goals

Main challenges

Transport, mobility and digital communications

In this module, we want to present the ways of reducing costs and reducing the negative impact on transport and the ways that this sector can achieve sustainability through modern and digital technologies.

Key concepts

Local Procurement

Digital Communication

Traveling and Commuting

Logistics

Learning objectives:

To explain the environmental problems directly related to transport and mobility.

Content summary:

It is very important to keep developing progress in mobility and transport through smarter and more efficient health and environmental objectives. Innovation and research are the most important key to successful data transformation and by integrating the different transport modes and delivering multimodality, the traveling and transport experience can become safer, smoother, health supporting and more sustainable.

The COVID-19 pandemic had a big impact on the mobility and transport sector. There are still major gaps and missing links in the common infrastructure. At the same time, it is necessary to modernize fleets in all modes to make them more sustainable.

4.1.1 Local Procurement

Local procurement refers to the purchase of goods and services from suppliers within the region(s) close to a company's operations.

If an effective procurement process is implemented, this will lead to the overall success of the supply chain.

Sustainable procurement is a process in which organizations meet their needs for goods, services, works and utilities in a way that achieves value for money on a life-cycle basis while addressing equity principles for sustainable development.

Organizations practicing sustainable procurement meet their needs for goods, services, utilities and work with the intention of maximizing net benefits for themselves and the wider world. In doing so, they must incorporate extrinsic cost considerations into decisions alongside the conventional procurement criteria of price and quality, although in practice the sustainable impacts

of a potential supplier's approach are often assessed as a form of quality consideration. "These are several instruments for development, such as those proposed by Amartya Sen: (1) economic facilities, (2) social opportunities, (3) protective security, (4) political freedoms and (5) transparency guarantees."1 " And to procure in a sustainable way involves looking beyond short-term needs and considering the longer-term impacts of each purchase. Sustainable procurement is used to ensure that purchasing reflects broader goals linked to resource efficiency, climate change, social responsibility and economic resilience, for example. "2

4.1.2 Digital Communication

Digital communication is the electronic way of exchanging information. Due to the development of technology, many new types of communication are being used nowadays (cell phones, social networking and texting) and many new ones are in progress of implementation.

Governments and public health institutions across the globe have set social distancing and stay-at-home guidelines during the COVID-19 pandemic. With reduced opportunities to spend time together in person come new challenges to remain socially connected.

Lots of research and digital platforms show that the overall use of the digital technologies has increased and people start thinking out of the frame and how to become more flexible in this quickly changeable world.

The positive impacts of digital technologies are that aren't any barriers and that they are making communication easier, quicker, cheaper and more efficient.

The negative impact is causing a social isolation between people and sometimes communicating online reduces the amount of time they actually spend in the company of other human beings.

Digitalisation and digital communications can provide solutions for some of the main global challenges and to create opportunities such as:

- Creating jobs;
- Advanced education;
- Developing competitiveness and innovation;
- Fighting climate change and enabling a green transition.

Digitalisation is the main key component for economic recovery and sustainability.

4.1.3 Traveling and Commuting

"Mobility management can be broadly defined as creating and managing mobility options, at both the systemic and system-to-customer levels, to improve the reach, efficiency, and affordability of public transportation services."3

Mobility management is an approach to designing and delivering transportation services that starts and ends with the customer.

Mobility management

- encourages innovation and helps to find the right solution for customers;

- plans for sustainability;
- assists customers in learning about the needed information and using services;
- regularly incorporates customer feedback as services are evaluated and adjusted.

Challenges facing transport industry:

- Requirement for new digital technologies;
- Digital transformation for the transport industry;
- Integrating the supply chain;
- Transforming of transport organizations;
- Improving automation and developing cybersecurity;
- Digitalisation.

How to reduce travel and increase productivity:

1. Video conferencing technologies - Technological advances are increasing remote work and give options for more flexible schedules.

Remote work has increased in the last years, as employees use the affordability and convenience of remote work.

Some of the most used video conferencing services include Microsoft Teams, Google Hangouts, WebEx, and GoToMeeting.

“Video conferencing technology reduces companies` business travel, allowing easily to conduct meetings without making expensive, time-consuming trips.”4

2. Virtual and augmented reality

Virtual reality is an interesting tool, adopted by travel technology to offer inspiration as it takes you on virtual journeys in a completely new way.

3. Artificial Intelligence (AI)

Artificial intelligence is the ability of computer controlled robots or digital computers to perform human tasks.

4.1.4 Logistics

Logistics is the process of planning and carrying out the efficient transportation and storage of goods from the point of origin to the point of consumption.

Logistic services, like transport, are an important part of growing and developing every local economy. The quality and efficiency of the logistic services matter for international trade.

Logistics companies are facing an era of unprecedented change as digitisation is being more and more used and customer expectations keep increasing in time. New technologies are enabling greater efficiency and better functional models; they are also re-modelling the marketplace in new ways. New entrants like start-ups or the industry’s own suppliers, are changing the sector.

"The Logistics Performance Index (LPI) is an interactive benchmarking tool created by the World Bank to help countries identify the challenges and opportunities they face in their performance on trade logistics and what they can do to improve their performance. It is the weighted average of the country scores on six key dimensions: customs performance, infrastructure quality, ease of arranging shipments, logistics services quality, consignments tracking and tracing and timeliness of shipments. This measure indicates the relative ease and efficiency with which products can be moved into and inside a country. "5

Better logistics helps to achieve the following sustainable outcomes:

- Reduced transportation costs;
- Reduced waste and pollution;
- Reduced lead times for critical components and products;
- Reduction or elimination of non-recyclable packaging.

References:

1. "Public Procurement for Sustainable Development". Chatham House – International Affairs Think Tank. November 19, 2020. Retrieved March 15, 2021.

2. https://procuraplus.org/fileadmin/user_upload/Manual/Procuraplus_Manual_Third_Edition.pdf

3. https://nationalcenterformobilitymanagement.org/for-mobility-managers/

4. https://www.techrepublic.com/article/how-video-conferencing-is-reducing-business-travel-and-increasing-productivity/

5.https://lpi.worldbank.org/about

Energy production and consumption

In this module, we want to present the ways of reducing the consumption of energy, renewable sources and the need for their higher implementation to modern technologies, how to reduce CO2 emissions and how to have a clean energy return.

Key concepts

- Energy Consumption
- CO2 Emissions
- Clean Energy Return
- Renewable Energy

Learning objectives:

To explain the environmental problems directly related to energy production and consumption include air pollution, climate change, water pollution and the ways to achieve sustainability in energy production/consumption.

Content summary:

Consumption of energy is currently increasing and many governments through the globe, start looking for new opportunities to become independent and to produce sustainable energy.

4.2 Energy

“Energy production is usually classified as:

- fossil and crude oil
- coal
- natural gas;
- nuclear, using uranium;
- renewable, using biomass, hydropower, solar, tidal, wind, and among others. “1

4.2.1 Energy Consumption

“Energy has both positive and negative impacts on societies. Access to abundant, affordable, secure, safe, and clean energy is beneficial for humans. But energy extraction, transportation, and use can have negative consequences to the health, environment, and economics of a society”.2

The environmental problems directly related to energy production and consumption include air pollution, climate change, water pollution, thermal pollution, and solid waste disposal. The emission of air pollutants from fossil fuel combustion is the major cause of urban air pollution.

World energy supply and consumption is global production and preparation of fuel, generation

of electricity, energy transport and energy consumption. Reducing energy consumption helps to achieve the following sustainable outcomes:

1. Home and building renovations and building smart homes;
2. Improving all kinds of transport;
3. Low energy cooling;
4. Improving appliance and equipment efficiency
5. Industrial efficiency
6. Sustainable vehicle fuel economy.
7. Aviation efficiency and long-distance travel.

4.2.2 CO2 Emissions

How does C02 affect the environment?

Carbon dioxide (CO2) is a colorless, odorless and non-poisonous gas and its emissions are the main reason for global climate change. These emissions are products of energy production and use, which are associated with global warming. As CO2 absorbs infrared energy, it traps heat within the Earth's atmosphere hence reducing the energy that is emitted back into space and increasing the average global temperature.

The environmental problems which are related CO2 are:

- Environmental and urban pollution
- Toxic acid rains
- Coastal and ocean pollution
- Melting of glaciers and polar ice.
- Habitat destruction

In order to achieve sustainability, it is better to reduce the CO2 impact. Doing so, people start looking for alternative and reusable sources. Some of the alternative energy sources are:

- Solar energy;
- Wind energy;
- Hydroelectric energy
- Geothermal energy
- Tidal energy
- Nuclear energy
- Bioenergy

Reduction of CO2 emissions helps to achieve the following outcomes:

- Improved air quality.
- Improved environmental quality.
- Improved health and well-being.
- Reduced emissions.
- Reducing global warming.

4.2.3 Clean Energy Return

Clean energy is the energy, coming from zero emission and renewable sources and that is not polluting the atmosphere, when it is produced. Clean energy return measures are helping to reduce global warming and don't have any negative effect on the natural resources.

While trying to find new ways of using energy, clean energy return is very important and it is necessary to understand the need and to increase the use of renewable energy sources.

Countries all over the world start looking for alternatives and many of them already have a great example and implementation of renewable energy.

The return of clean energy helps to achieve the following sustainable outcomes:

- Energy returned and saved to the power grid;
- Providing secondary energy sources, replacing the old ones;
- Reduced load on the power grid.

4.2.4 Renewable Energy

Renewable energy is generated by sources that cannot be depleted (unlike coal and fossil fuels). Most of these sources rely on the sun (solar panels, hydroelectric plants, windmills, biomass, etc.) Geothermal energy is not renewable but it is sustainable.

"Renewable energy often provides energy for electricity generation to a grid, air and water heating/ cooling, and stand-alone power systems. About 20% of humans' global energy consumption is renewables, including almost 30% of electricity. About 8% of energy consumption is traditional biomass, but this is declining. Over 4% of energy consumption is heat energy from modern renewables, such as solar water heating, and over 6% electricity". 3

The renewable energy use is increasing and its application can be used even in rural and developing countries. There are some benefits of using renewable energy:

- Reducing the air pollution by producing energy that doesn`t create greenhouse gas emissions and therefore reducing global warming;
- Achieving independence by creating own energy that has no fuel or import costs.
- Improving health and life quality;
- Stable prices of energy;
- Guaranteeing sustainable and resilient economics.

References:

1.https://en.wikipedia.org/wiki/World_energy_supply_and_consumption

2.https://cleanet.org/clean/literacy/energy7.html

3.https://www.corporateknights.com/energy/iea-renewable-investors-lagging-despitehttps://en.wikipedia.org/wiki/Renewable_energy

Land, air and water

In this module, we want to present ways of reducing the pollution of the land, water and air through modern solutions, technologies, and achieving sustainability.

Key concepts

- Biological Diversity;
- Air and Water Quality;
- Water Consumption;
- Sanitary Water Displacement.

Learning objectives:

To explain the environmental problems directly related to production and consumption of resources, including air pollution, climate change, water pollution and the ways to achieve sustainability and preserve nature.

Content summary:

Increased consumption of energy influences many aspects of land, air and water:

- Land, air and water pollution;
- Global warming;
- Extinction of environmental habitats;
- Soil erosions;
- Long-term toxins.

There are some options for achieving environmental sustainability:

- Increase using of renewable energy sources that have no consumption limitation;
- Better protection of the eco-systems and preventing the damages;
- Decreasing air, water and land pollution will result in having better mankind health;
- Technological development and optimizing quality of services.

4.3.1 Biological Diversity

Biological diversity is often described as the total variety of life on Earth at all its levels, from genes to ecosystems.

“In 1988, UNEP convened the Ad Hoc Working Group of Experts on Biological Diversity, initiating the process that culminated with the adoption of the 1992 Convention on Biological Diversity (CBD).

The CBD was opened for signature on 5

June 1992 at the Rio Earth Summit and entered into force in December 1993. " 1

Biological diversification is directly connected with the nutrition of all people on the planet and keeping it and protecting it is important. Management of natural resources determines the baseline health status of a community. It can be reviewed in 5 core values, with big importance for humanity:

- Ecological life support - Biodiversity provides functioning of all ecosystems;
- Economic – provides humans with materials for production and consumption;
- Recreation – tourism industry relies on biodiversity; some of the good ways for recreation are birdwatching, camping, hiking and fishing;
- Scientific – helping humans to understand the natural world better;
- Cultural – connecting nature with humans.

4.3.2 Air and Water Quality

Air and water quality are extremely important to humankind and every government has defined responsibilities in protecting the quality of air and water.

Air pollution can seriously damage people's health and some of the main factors for causing it are:

- CO2 emissions from vehicles;
- Industrial activity contamination;
- Dust and wood smoke;
- Indoor pollution.

Water contamination can lead to major health issues and keeping the water clean is one of the responsibilities for humans. Governments make efforts in creating effective infrastructure and assuring regular water long-term supply for communities, as well as wastewater treatment and educating the society how to preserve and conserve water quality.

Air pollution can have a negative impact on health and can cause damage to our planet. This air pollution can be caused by fine particulate matter, ground-level ozone, sulfur oxide, nitrogen oxides, carbon monoxide, and greenhouse gases.2

Clean air and water have health benefits that impact our brain and body which improves our ability to grow and evolve.

"Excess nitrogen and phosphorus run-off, medicines, chemicals, lead, and pesticides in water pose threats to well-being and quality of life. "3

Some of the ways for improving air and water quality are related to:

- Clean and sustainable water production;
- Using renewable sources;
- Reducing air pollution, using the new technologies;

- Reducing water pollution, using new technologies;
- Reducing and upgrading the transport services, using more eco-friendly technologies;
- Recycle and reuse;
- Green building.

4.3.3 Water Consumption

"Water consumption is the portion of water use that is not returned to the original water source after being withdrawn."4 For example, evaporated water counts as consumed and water used to produce goods is also consumed and can no longer be used. When looking at water scarcity and human impact on water supply, water consumption comes into play. Irrigated agriculture accounts for 70% of water use worldwide and almost 50% is lost to evaporation and transpiration.

Many ecosystems in the world as well as almost 40% of the human population suffer from lack of water. A lot of fresh water is consumed by agriculture and the human population is increasing, so it increases the food energy demand.

Spatial conditions have a great influence on the previously discussed environmental impacts. One liter of water in the Nile watershed is vastly different to a liter from the Mississippi since there is far less water in the Nile watershed. It is consequently necessary to classify water consumption in context of the environmental impact at the local area.

"From a "polluter pays" perspective it is highly relevant to associate environmental consequences with products".5

4.3.4 Sanitary Water Displacement

Access to water has been the reason for conflicts through the centuries and polluting the water is resulting in the quantity of drinkable water.

Sanitary Water Displacement achieves a number of sustainable outcomes including the minimizing the water related diseases and insect infestations.

Searching for alternative options for having more sustainable sources of water, can serve as a vital water supply to support the water resilience by providing diverse water sources.

Possible solutions for water crisis are:

- Improving the technologies for irrigation of water in agriculture;
- Teaching and educating people in awareness and water preservation;
- Recycling of water waste;
- Using renewable sources and rain water harvesting;
- Efficient desalination plants;
- Developing better policies and good partnerships between governments;
- Address pollution.

References:

1.https://www.iisd.org/system/files/2020-09/still-one-earth-biodiversity.pdf

2.Environmental Protection Agency. Learn about air. Last reviewed December 4, 2018. Accessed March 14, 2019

3.Environmental Protection Agency. Learn about water. Last reviewed December 4, 2018. Accessed March 14, 2019

4.https://www.wri.org/insights/whats-difference-between-water-use-and-water-consumption

5.https://pubs.acs.org/doi/10.1021/es1041755

Water disposal

Each product has a life cycle: from its production to its disposal, and each phase of this process uses energy and produces waste. Depending on who we are, be it citizen-consumer, producer or stakeholder, our approach may differ, as our possible actions that can be undertaken. But why should we think about the end of the life of products in all their parts, from the product itself to the packaging? This chapter aims at explaining the concept of waste in the context of the life of products and goods, from a consumer and producer perspective: it will be shown what are wastes and what's their impact on the environment, as well as why it's important to think beyond the mere consume of the good, to the fate of its parts after their use. After having appraised the value of thinking about the waste disposal, the chapter will introduce the waste sorting concept as an approach that can be taken both by consumers and producers. It will have both a comparative approach and a vertical one, highlighting key concepts of each national case and going deeper on the target country's case. Then, it'll analyze the contribution of the EU in the framework of waste sorting and disposal, showing how its laws work on our lives. Finally, a confronting space will be left to the youth to ask themselves: if there's no efficient waste disposal system, or no waste sorting at all, how can enterprises and citizens contribute and make networks to make up for possible municipal lacks?

What you will learn

The value of waste disposal, ideas for waste sorting, the EU framework, to think of possible solutions to lacks

Key concepts

- The life cycle of the product
- Waste disposal consequences
- Waste sorting

Learning objectives:

The primary goal of solid waste disposal is reducing and eliminating adverse impacts of waste materials on human health and the environment to support economic development and superior quality of life. This is to be done in the most efficient manner possible, to keep costs low and prevent waste build-up and it has to move in the framework of EU Waste Directives.

Duration: ±1 hour for present

Application cases:

The Netherlands is among the leading countries in green initiatives that strive to increase sustainability. The country continues to develop and support green programs like ISWA. Born in 1972, The International Solid Waste Association (ISWA) is a non-governmental, independent and non-profit association by statutes and follows the mission statement to promote and develop

professional waste management worldwide as a contribution to sustainable development.

ISWA's objective is the worldwide exchange of information and experience on all aspects of waste management. The association promotes the adoption of acceptable systems of professional waste management and of public cleansing through technological development and improvement of practices for the protection of human life, health and the environment as well as the conservation of materials and energy resources.

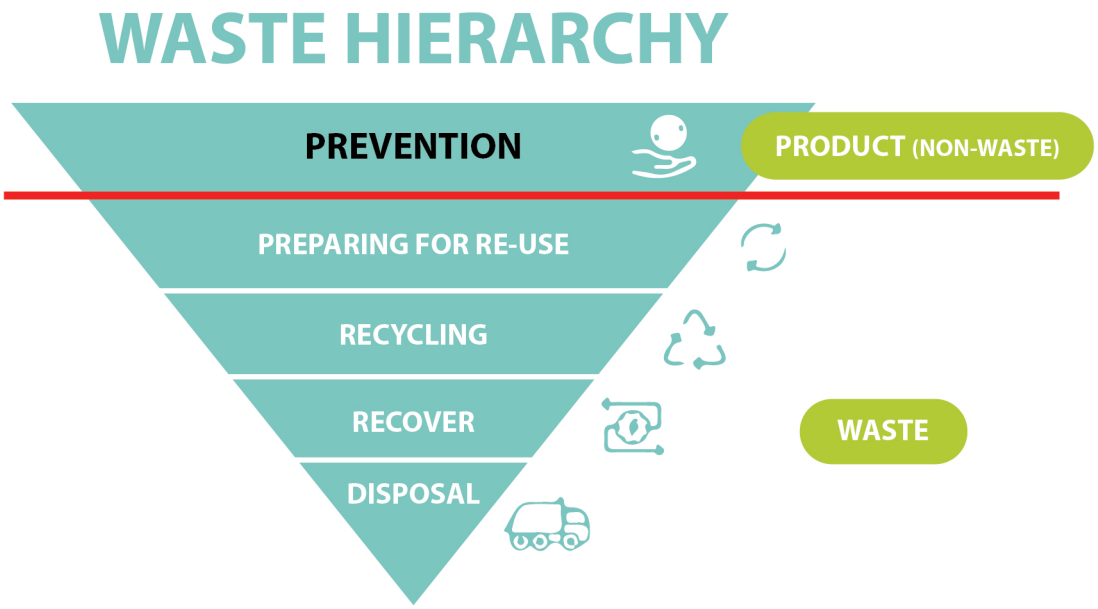
ISWA is active in a variety of areas, including conferences, meetings, training programs, information development and dissemination, and technical assistance on a global scale. The association has a total of more than 1,200 members in 93 countries. Its network expands to countries with more than 80% of the world's population and represents all aspects of the waste management field: from practitioners and industry to communities, from associations, research institutes and academics to regulatory authorities.

Content summary (100 words max):

Waste is not only an environmental problem, but also an economic loss. On average Europeans produce 481 kilogrammes of municipal waste per year. We want an Earth where no waste exists. Waste should be reused and reduced to a minimum, then collected, recycled and treated properly. Residual matter should be disposed of in a safely engineered way, ensuring a clean and healthy environment. All people on earth should have the right to enjoy an environment with clean air, water, seas and soils. To be able to achieve this, we need to work together.

Content body:

The EU Waste Framework Directive lays down some basic waste management principles. It requires that waste be managed



- without endangering human health and harming the environment
- without risk to water, air, soil, plants or animals
- without causing a nuisance through noise or odours
- and without adversely affecting the countryside or places of special interest

It explains when waste ceases to be waste and becomes a secondary raw material, and how to distinguish between waste and by-products. The Directive also introduces the “polluter pays principle” and the “extended producer responsibility”.

The foundation of EU waste management is the five-step “waste hierarchy”, established in the Waste Framework Directive. It establishes an order of preference for managing and disposing of waste.

To comply with the objectives of this Directive, EU countries shall take the necessary measures to achieve the following targets

- by 2020, the preparing for re-use and the recycling of waste materials (such as paper, metal, plastic and glass) from households shall be increased to a minimum of overall 50 % by weight
- by 2020, the preparing for re-use, recycling and other material recovery, including backfilling operations using waste to substitute other materials, of non-hazardous construction and demolition waste shall be increased to a minimum of 70 % by weight
- by 2025, the preparing for re-use and the recycling of municipal waste shall be increased to a minimum of 55 %, 60% and 65% by weight by 2025, 2030 and 2035 respectively.

The rules and calculation methods for verifying compliance with these targets can be found in Commission Decision 2011/753/EU. Additional rules for the calculation, verification and reporting of data on waste in accordance with the amended Waste Framework Directive can be found in Commission Decision (EU) 2019/1004.

Circular Economy

In the EU territory, the EU laws make up for the main framework and the objectives both EU and national actions must meet. With the new Commission, the Green Deal has been enacted as a group of regulations and directives with the aim of comprehensively guide the MS actions for the Green Transition. While the scope of the Green Deal is very wide, this chapter will focus on the Circular Economy Action Plan (CEAP), both as law and in its potential applications.

What will you learn

The EU framework on Circular Economy and potential implementation

Key concepts

- EU Law
- Circular Economy
- Using EU websites

Learning objectives: Have an overview of EU law instruments to approach to the Circular Economy and learn where to find the appropriate informative resources on the EU sites

Duration: ±1 hour

Content summary:

-Introduction on the two legislative instruments, what are they composed of, what's their legal value, how do they relate with national laws.

-Explanations of the objectives, aims and instruments of the Green Deal and CEAP, as well as the topics covered.

-Explanation on how to use the EU sites to search for the desired instruments.

-Use of factsheets which illustrate the two acts and videos which explain how to move in the EU website.

Content body:

The EU is an international organization whose laws create legal effects and are obligatory, differently from other organizations such as the UN. Its legal acts, moreover, enjoy a prominence over national law of its Member States: this means that EU regulations, directives and all other legislative acts become an integral part of each MS' legal body. Through EU law, European institutions aim at giving a shared path to MS with regards to the subjects in which the EU has competence.

The EU is also a political organization, and especially with regards to confronting and tackling climate

change, it aims at spearheading the transition to a carbon-neutral, fully green economy: it already has pledged to become the first climate-neutral continent by 2050, and EU law is the first instrument to guide MS' actions to a shared goal. One of these instruments is the EU Green Deal.

Through a December 2019 Communication, the EU Green Deal, the European Commission pledged to take all necessary actions to become the first climate-neutral continent, investing a huge portion of the EU budget to finance green projects in each sector of our lives, from transports to food supply chains, to energy to industry and agriculture, and to update and develop a more comprehensive and strict EU law on the same subjects. Moreover, the EU Green Deal has developed a Climate Pact to allow people, communities, and organizations to participate in pledges and actual activities to spread awareness and stimulate actions in the field of the green transition and to develop good practices in the context of a greener economy. The same will be done in the field of rural and urban renovation through the New European Bauhaus, which will sustain local initiatives.

The EC already started to adopt Proposals for projects under the Green Deal, using among others the funds from the Next Generation EU, enacted in response to the Covid-19 pandemic.

One of the main subjects which are to be mastered by countries and citizens in the near future to allow a green transition and a more sustainable future, as well as reaching the objective of being the first climate-neutral continent, is the Circular Economy: as a macro-subject, it covers many aspects of the routine of consumers, producers, companies and individuals, as well as each aspect of the products we use and consume. To guide the theoretical and practical making of a successful circular economy, the EC has developed the Circular Economy Action Plan (CEAP).

The main aim of the CEAP is to set the main principles on each subject and the ways on how to follow them: the EU industrial strategy aims at decoupling economic growth from resources use, softening the pressure on intensive extractive actions, as well as stimulating businesses into embracing innovative methods and at the same time strengthen the EU industrial base, especially regarding SMEs.

To this extent, the CEAP starts from designing a more sustainable product policy framework which will require more sustainable product design, while empowering consumers with new rights regarding their products, such as the right to repair and to more information on how to find and use spare parts not to waste products bought, and finally addressing circular production methods

The CEAP is mainly focused on critical product sectors such as energy, textiles, ICT, furniture and intermediary products, but its scope goes beyond them, especially when addressing supply and value chains, which have also suffered under the Covid-19 pandemic.

The CEAP also addresses waste management and disposal, with a focus on aiming to uniform symbols, colours and practices on recycling to allow European citizens to have the best practices and a unique recycling system in each country. In addition, it addresses the problem of electronical wastes and secondary raw materials, to implement not only recycling but also reuse of expired and packaging.

It's very important to keep in mind the EU Green Deal and the CEAP as they put down the EU strategy for the future green transition and in particular for the development of an efficient circular economy. Following these guidelines, youth entrepreneurs can adapt their business plans to tackle today's challenges and build a better tomorrow.

Assessment questions:

Question 1: What's the EU Green Deal?

Answer 1: a December 2019 Communication from the European Commission (true)

Answer 2: a March 2020 European Parliament Regulation

Answer 3: an August 2021 European Council Directive

Question 2: What does CEAP stands for?

Answer 1: Council of Europe Action Plan

Answer 2: Circular Economy Action Plan (True)

Answer 3: Circular Economy Assessment of Potential

Question 3: Which sectors are the focus of the CEAP?

Answer 1: Energy, Oil and Waste

Answer 2: All products

Answer 3: Critical products sectors like ICT and Textiles, as a starting point (True)

Question 4: Why are those documents important for new and youth entrepreneurs?

Answer 1: If they don't comply, they get fined

Answer 2: They're the guidelines for the future development of European economy

Answer 3: They comprise grants and incentives for good enterprises

Ressources:

Learning objectives: To effectively read EU law resources and understand the potential offered by the EU Green Deal

Duration: 1 hour

Application cases: N/A

Content summary: This resource page is comprised of the actual documents from the European Commission about the EU Green Deal and the Circular Economy Action Plan, plus other links to the main page of the Green Deal which also contains explicative videos and more precise information on the single sectors. Youth entrepreneurs, starting from the main page, may go to the sector of their interest/need and better inform on the plans and possibilities given by the EU.

Content body:

1. The European Green Deal main page: from this link you can access to all official EU resources about the EU Green Deal, from simplified factsheets to the breakdown of the EU strategy for each sector.

IMPORTANT: many EU pages are written in various languages. While the main is English, some can also be accessed in other translations for a better understanding. If a link has a three dots' symbol, it can be accessed in a translated form in other languages

The website is comprised of various sections

1.Highlights

2. The Benefits of the EU Green deal: a simple infographic on the potential benefits this strategy will give to EU citizens through its following by enterprises and firms

3. Actions: here each user can find the single sectors covered by the Green Deal and access to them to find more sector-specific information. The most interesting for young entrepreneurs can be

a. Industry

b. Agriculture

c. Finance and Regional Development

d. Research and Innovation

4. Get Involved: here are listed the two main ways in which citizens and organizations can work together and participate, the European Climate Pact and the New European Bauhaus.

5. Timeline: the history of the EU Green Deal, which continues to nowadays as the work of the EU and of citizens is just at the beginning. It's constantly updated with new evolutions in EU law and projects on the Green Deal.

6. Latest: ancillary to the Timeline, it's a news feed on the same subjects.

7. Documents and Related Links: for further information and analysis on similar topics, or to expand the knowledge through factsheets and simplified documents.

2. The Circular Economy Action Plan: the main portal to the CEAP. This, too, is comprised of various sections and additional links and documents useful to better delve into the subject and understand its potential.

1. Objectives.

2. Actions.

3. Timeline.

4. Policy Areas: here is the main area of interest for young entrepreneurs. As with the Green Deal, from here it's possible to access to one's area of interest and delve more into EU projects and possibilities.

5. Connected Strategies: from here it's possible to access to the other fields the EU has covered with strategy plans or laws. It can be useful both for a more comprehensive awareness, but also to connect the EU efforts and find the most useful acts to exploit

6. News.

7. Events: through this section users can join the network offered by the EU to the Stakeholder Platform, finding webinars and seminars useful to deepen the knowledge, spread best practices and make network.

8. Documents.

Reuse

The end of the primary use of a product doesn't always mean that its usefulness is gone forever: many items can be employed in uses not initially envisaged by the designer, or, in the case of well-designed products, they can hint themselves to possible uses after the "end" of its life cycle. The concept of reuse aims at giving a second life to products, employing them in other kinds of uses. The reuse of products isn't limited to the packaging, but the product itself can be reused in a variety of ways: the fashion industry, one of the major polluters in the world, is experimenting ways for the reuse of used and unsold products, while NGOs are making network in various countries to enhance solidarity and give to everybody an access to clothes with dignity, contributing at the same time to climate and economic justice.

What you will learn

- The concept of reuse and the difference from waste disposal and recycling
- Examples of reuse and the importance of networking
- Activities to understand how a product may have different uses

Key concepts

- Reuse
- Networking
- Second Life of Products

Duration: ± 1 hour

Application cases: The project Dona Valore , in cooperation with Rete Riuse, has a presence in many Italian cities such as Milan and other of the Lombardia Region. Its aim is to recover old, used and unwanted clothes from citizens and redistribute them through the network of Caritas Ambrosiana and Diocesi di Milano to people in need such as homeless people and poor.

The characteristic instrument citizens can find to appraise the work of the project are the yellow dumpsters in which everybody can put their unused clothes, instead of trashing them.

The Consortium Farsi Prossimo coordinates and supervises the whole project, being the guarantor and the point of contact for third parties which make agreements with it.

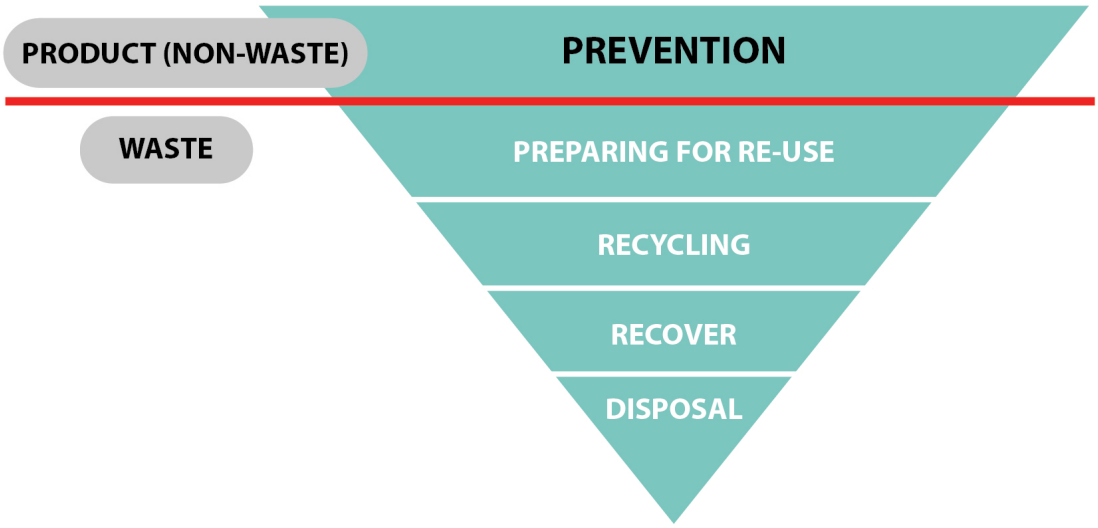
The network of Dona Valore is composed of many coops, near the Caritas Ambrosiana, which manage the collection of clothes in the yellow dumpsters in all its phases from the placing and maintenance of the infrastructure to the transport of the clothes to the stocking centres.

After the arrival of the clothes stocks in the centres with authorized transports they are then distributed to the final shops or donation centres, depending on the contracts stipulated.

Content summary: Introduction to the concept of reuse, explanation on how it can benefit the environment and the society, examples of reuse (Rete Riuse) and of how different packagings or products can be given a second life, a small exercise of imagination.

Content body: In the Waste Hierarchy of the EU Waste Framework Directive, the preparation for the re-use is at the second stage, he first after the prevention stage: that is because reuse doesn't aim at making less waste, but it finds a new life for the product and the packaging, possibly eliminating the waste generation.

The expiration of a product's main usefulness does not necessarily mean its only fate has to be disposal: on the other side, it can enjoy new uses, some which require more imagination, some more intuitive to be found.



Why reusing? The positive aspects of reuse are straightforward to understand: by using a product for another aim, there won't be any need of disposing it, nullifying waste generation and not adding any negative impact on the environment after the production stage. The reuse also guarantees a positive economic impact, since using something already at hand to fulfil another aim or objective diminishes the expenses, both as new appliance shopping and as disposal expenses. Finally, in many countries the vintage fashion and aesthetics have become mainstream, therefore the reuse of packaging and old products, especially for cafés and clubs, and the use of old furniture made up by products which have expired their original aim, can give a positive impact also on business attractivity towards some clients' categories, such as young people.

Reuse has also a great social added value as an incentive for networking among businesses and NGOs: in many Northern Italy cities the Rete Riuse puts together citizens, Caritas associations and NGOs to establish a network of collection and redistribution of old and unused clothes.

The fashion industry is among the most polluting ones, and also many firms are starting to retire from clients old clothes they don't use anymore, to possibly recover materials to be used in future projects.

Reuse is an important attitude which can also be employed and learned at home with the family: the packages of liquids such as tomato sauce, milk and water can be used again to stock other liquids, or to be used in more imaginative ways. A great exercise which can be done at home or in a workshop could be to think at the products we see in the room, or the ones we use the most at home, and imagine its possible life cycle and how could we “save” them from disposal, by giving them a new use

Can I Reuse it?

Learning objectives: To make experience and stimulate each one's imagination by thinking how products can be reuse with the less waste possible

Duration: ± 1 hour

Content summary: in this activity, trainers can bring some old products and/or ask the group to bring their own. They will be examined by the group, which will have to find a possible alternative use to each one of them. The objective of the activity is to create a project which would involve the gathering and use of these categories of products to another aim, or to give them back any commercial use. The projects would be then evaluated and, in case, put into practice on a small scale to give the group an idea on how a project can be made. Prizes can be awarded, if deemed appropriate.

Content body: This activity will be comprised of various phases:

1. Trainers will use some old products and/or ask the target group to bring some on their own. They can either be old unused clothes, groceries' packaging, old boxes and paper packs, or plastic bottles and bottle's caps, or even more complex products like old smartphones and devices, to make the difficulty of the activity higher.

2. The group will be asked to choose a category of products or a choice of different products, whatever their imagination suggests them. Depending on the size of the group, the activity will be carried out either in small groups or individually.

3. Each person/group will have then to imagine a possible alternative use for that specific product, category of object, or for the choice of products made: it can either be a project which entails the use of part or all of the things chosen, or a new commercial life for the product. -As an example, plastic bottles can be cut and used as containers or decorations, their caps for collages in schools. Old shirts can be cut to be used in theatrical plays for the scenery or sold back after thorough washing as vintage products. Suggestions can be made by the trainers if the group finds it hard to come up with an idea, or they can guide all the members.

4. After a period of time, the projects from each group/member are confronted and analyzed in their feasibility and appeal. Each group can explain its project, why it has chosen it, and how it can help the environment and constitute an example of reuse. Some time will be given for the other groups/people to ask questions and discuss the projects together.

5. At the end of the debate, the whole group will decide which project is the most appealing, which can help the environment more, and which is the more realistic and feasible. If possible, trainers will try their best to make sure each project has some potential, and if possible merge the project or unite them in a more comprehensive reuse project or system.

Questions - Chapter 1

Question 1: One sustainable project is:

Answer 1: the project only cares about profit.

Answer 2: the project only cares about the environment.

Answer 3: the project who cares about environmental, social and economic impact.

Question 2: What is eco-innovation?

Answer 1: any innovation that translates into an important step towards sustainable development, reducing the impact of our modes of production on the environment.

Answer 2: manage your business taking only into account the economy.

Answer 3: create a project that does not take into account the needs of the market.

Question 3: What are the principles associated with the eco-entrepreneur?

Answer 1: Reduction of garbage, reduction of gas emissions, reduction of hazardous chemical residues, reuse of industrial waste as raw material, use of sustainable energy reducing its use in excess.

Answer 2: Profit, pollution and water.

Answer 3: Energy, transport and pollution.

Question 4: What is the factor affecting the transport industry recently?

Answer 1: Covid-19

Answer 2: Inflation

Answer 3: Lack of raw materials

Question 5: What problems digital communication can't solve?

Answer 1: Creating new jobs

Answer 2: Social isolation

Answer 3: Fighting climate change

Question 6: What problems can good logistics solve?

Answer 1: Social isolation and health issues

Answer 2: Educational gaps

Answer 3: Reduced transportation costs and pollution

Question 7: What danger is posed by CO2?

Answer 1: Poisoning the environment

Answer 2: Heating up the planet

Answer 3: Dangerous to animals

Question 8: How is clean energy defined?

Answer 1: Renewable

Answer 2: Not fossil fuels

Answer 3: Zero emission

Question 9: What is the primary benefit of renewable energy?

Answer 1: Cannot be depleted

Answer 2: Needs to be extracted from the Earth

Answer 3: It is cheaper to produce

Question 10: What is the definition for water consumption?

Answer 1: The total water available in an area

Answer 2: How much water is pumped per day in a country

Answer 3: The difference between pumped water and water returned to the source

Question 11: What are the causes of air pollution?

Answer 1: Development of new technologies

Answer 2: Smoke and car emissions

Answer 3: Biological diversity

Question 12: How the water crisis can't be solved?

Answer 1: Recycling water

Answer 2: Using renewable sources and rain water harvesting

Answer 3: Building new factories

Question 13: Where can I find the latest events on Circular Economy?

Answer 1: in the Event section of the CEAP page

Answer 2: in the Timeline section of the EU Green Deal

Answer 3: in the Event section of the CEAP page

Question 14: Is there a sector-specific page for my area of work?

Answer 1: No

Answer 2: Yes, in the EU Green Deal page

Answer 3: Yes in the EU Green Deal page and CEAP page

Question 15: Where can I find more information and materials about the possibilities offered by the EU?

Answer 1: In the Documents sections of the EU Green Deal and CEAP

Answer 2: in the Related links section of the CEAP

Answer 3: in the Events section of the EU Green Deal

Question 16: Which one is the EU leader country in the green initiatives?

Answer 1: Italy

Answer 2: The Netherlands

Answer 3: Croatia

Question 17: What do we have at the top of the Water hierarchy?

Answer 1: Recylcling

Answer 2: Re-use

Answer 3: Prevention

Question 18: How many kilograms of municipal waste do Europeans produce per year?

Answer 1: More than 400kg

Answer 2: More than 100 kg

Answer 3: More than 900kg

Question 19: At which stage of the EU Waste Hierarchy can we find the Preparation for Reuse?

Answer 1: Second, after Prevention

Answer 2: Last one, before disposal

Answer 3: In the middle, after recycling

Question 20: Why should I commit myself to reuse?

Answer 1: Because the government gives monetary incentives

Answer 2: For its waste saving, networking possibilities and economic positive impacts

Answer 3: Because it’s a nice word

Question 21: Who can engage in reuse?

Answer 1: Only big corporations

Answer 2: Households, Start-ups, NGOs and associations (CORRECT)

Answer 3: Who makes the most waste

CHAPTER 2 - SKILLS

Green reskilling

Through this module you will be able to understand the implications of the transition to a green economy based on eco-innovation which is an opportunity rather than a challenge. Indeed, change can create far more jobs than lost. But those who risk losing their jobs will be understandably fearful. To avoid being left behind, it is necessary to learn new skills that are more sustainability-oriented.

What you will learn

-What are green jobs,

-The role of reskilling,

-That the retraining of workers for green jobs offers a long term goal to take care of our economy and the Earth but, above all, it offers numerous opportunities for workers.

Key concepts

- Reskilling workers
- Green Economy
- Green jobs

Learning objectives: Creating awareness about what green jobs are, about the role of retraining, about the fact that the retraining of workers for green jobs offers a lot of time to take care of our economy and the Earth, but above all it offers numerous opportunities for workers.

Duration: 1 hour

Application cases: The evolution of mobility towards the electric world requires specialized mechanical personnel. Companies are already moving to train who will repair electric vehicles. Let's see how A green mechanic who will most likely have fewer oil-stained hands, but will be surrounded by electronic diagnostic tools. Almost as if he were a surgeon. Indeed, like engineers because it is no longer enough to be passionate about cars, but you need to understand electrical engineering. This is what promises to be the job of the future for auto and motorcycle mechanics. The same ones that will be increasingly electrically powered. In short, future mechanics will have to deal with electric cars and will have to know how to repair. If anything, the problem could be for those who have been doing this job for years. The appeal of the car manufacturers is: you have to keep up with the times, also go back to the classroom or in any case to a training environment to update your skills. Entering a new era of mobility also requires trained technicians able to face the new production challenges and to make the best use of digital tools. For example, at the Zwickau plant, Volkswagen is in action both to produce the Id.3 and to train the mechanics of the future*.

*The mechanic of the future will do a real green job

Content summary: When we talk about green jobs, we usually mean jobs in the green economy sectors, jobs that can have a positive and vital impact on the environment by reducing emissions, preserving and restoring nature. Given the wide range of jobs that can be considered green, there is also a wide range of skills required to be successful in these jobs. There is a school of thought that says that any job can be a green job, or at least a "greener" job, if we consciously consider how to do what we are doing in a way that can have a more positive environmental impact.*

Content body: Green jobs represent enormous potential in an unequal global economic perspective. While more than 100 million people lost their jobs in 2020 due to the pandemic affecting economies around the world, many governments and international organizations around the world are calling for a green recovery, pointing to faster growth opportunities. The goal is for green jobs to offer the double benefits of both good jobs and new ways to tackle climate change and nature crises. These hopes are inextricably linked: the ILO estimates that while 24 million jobs can be created from the energy transition and the circular economy, another 72 million could be lost by 2030 due to heat stress. Numbers like these show that we need to move to a green economy to prevent future job losses and to safeguard the future of our planet. Most experts believe that the transition to net zero will lead to the net creation of decent jobs that pay a living wage. However, not all green jobs are not created equal. Some are highly skilled, highly paid, and require advanced degrees. Take, for example, an environmental engineer optimizing processes at a recycling plant, or an environmental scientist testing pollutant levels at a wastewater treatment plant, or a green tech entrepreneur. Others are less qualified and less paid as an installer of vehicle charging points, insulation or solar panels. Given the wide range of jobs that can be considered green, there is also a wide range of skills required to be successful in these jobs. We can also qualify green skills in three degrees of involvement:

- Low-skilled jobs: workplace learning or short retraining and retraining programs,
- Medium-skilled jobs: short to longer retraining and retraining programs; TVET courses
- Highly skilled occupations: university degree; longer retraining programs**

*Reskilling workers for the green economy

**Skills for a greener future

Climate Migration

This module aims to contribute to the debate on the impact that climate change has on migration, on the potential contribution that the latter can make to adaptation processes in response to the negative effects of the current climate crisis and on the importance of prevention to stem this phenomenon.

What you will learn

Understanding the relationship between migration and climate. Risks of considering migration as a form of adaptation and the importance of prevention.

Key concepts

- Climate migrations
- Prevention
- Adaptation

Learning objectives: Understanding the phenomenon of climate migration and informing about the forms of prevention to avoid climate migration or at least combat it.

Duration: 1 hour

Application cases: Climate change impacts the availability of water resources and can exacerbate conflicts over water in transnational basins. Recent studies show that the countries of Central Asia are at greater risk due to the large number of inhabitants, the complex political situation and the expected decrease in water resources deriving from the great mountain ranges. This causes displacements of populations that have consequences on the local economy, create impoverishment and encourage exodus*.

Content summary: The International Organization for Migration (IOM) has identified three main forms of mobility associated with climate change.

The first is migration, a term used in a broad sense to refer to people who move within or outside their country for a variety of reasons, including environmental ones.

Displacements, the second form of mobility, are to be understood as forced movements due to environmental disasters.

Planned transfers, on the other hand, represent the third form of mobility and concern communities that are moved to safer places due to the impossibility of remaining in territories irreversibly compromised by environmental events.

*Cambiamento climatico e conflitti per l'acqua: l'Asia centrale a rischio

Content body: The International Organization for Migration (IOM) refers to climatic migrations as a sub-category of environmental ones, as determined by a specific phenomenon: climate change. For the purposes of this work we will use the terms “climatic migrants” and “climatic migrations”, although these definitions are accompanied by others that crowd a space of categories and terminologies in continuous evolution. Although the term “environmental migrations” describes, in our opinion, perhaps more accurately the phenomenon in question, referring to the word “climate”, when speaking of migrations caused by extreme environmental events, helps to clarify the human causes and related political responsibilities that characterize these phenomena. Historically, the first definition used, coined forty-five years ago, was that of “ecological refugees”. Although it still remains a highly debated topic, there is a tendency to avoid the use of the term “refugee” due to the lack of legal bases in international law; from a legal point of view, in fact, the term “environmental refugee” is inappropriate, as international law has not yet defined the status of those who leave their home for environmental reasons, especially due to the difficulty of distinguishing them clearly from other drivers, and therefore are not included in the 1915 United Nations Refugee Convention. The response to the vacuum of policies and international legislation led to the adoption of the Nansen Initiative (The Nansen Initiative was born in 2012 on the initiative of Switzerland and Norway with the aim of building consensus among states on how to best govern the phenomenon of cross-border mobility associated with displacements caused by extreme environmental phenomena, both sudden and gradual, caused by climate change) and dialogue around the platform on displacement due to disasters. However, the term climate refugees continues to be used also to emphasize the fact that those affected by these events are involuntary victims who are entitled to support and compensation; an emphasis that the more neutral term “climate migrant” tends to evade. The passage from the term “climate refugee” to that of “climate migrant” in the last ten years is representative of the political dispute surrounding this phenomenon. Furthermore, the polarization of the debate around these two terms is a useful representation of the critical elements and opportunities that characterize the idea of migration as a form of adaptation and its progressive affirmation in political dialogue at the international level. An example of the lack of international consensus is the fact that the term climate refugee is not adopted by the United Nations Refugee Agency (UNHCR), which prefers to refer to people forced to move in a context of disasters and climate change. However, this should not distract attention - as also recognized by the Global Refugee Pact of 2018 - from the fact that the increase in climatic and environmental degradation and disasters are affecting the determinants of refugee movements. Faced with the evident growth in the phenomenon of displacement caused by environmental factors, the adoption of legal protection mechanisms at an international and national level is increasingly urgent, such as, for example, the possibility of obtaining some form of protection by reason of environmental reasons. In this direction, despite the considerations of a legal nature and the resistance shown by States to the recognition of the status of climate refugee, a recent ruling by the UN Human Rights Committee has opened the door to future asylum requests for reasons related to the effects climate change. The International Organization for Migration (IOM) itself prefers the term “refugee” to that of “climate migrant”, thus emphasizing the need for the discussion on the issue of climate migration to maintain a priority focus on preventive measures. Furthermore, it is highlighted that the mobility associated with extreme climatic events is not exclusively of a forced nature and that the management of migration and related policies can provide solutions.

The IOM also underlines how complex it is to isolate environmental drivers from others of an economic, political and social nature and the political risks associated with the reopening of the

United Nations Refugee Convention. Finally, the IOM already highlights the existence of a wide set of soft and hard law tools to draw upon to respond to the challenges of climate migration in terms of human rights, refugees, humanitarian law, as well as tools to manage displacements. internal, disasters, climatic migration. A further terminology is that proposed by FAO which speaks of “distress migration” with the aim of emphasizing the fact that climate-induced mobility is rarely, perhaps never, voluntary and that many of the people affected by these phenomena see to worsen their socio-economic conditions precisely because of involuntary migration. As far as prevention is concerned, it is necessary to demonstrate adaptation, foreseeing the effects of climate change and adopting adequate measures to prevent or minimize the impacts. Strategies and actions are needed at local, national, transnational and European level. Integration into policies from other areas is essential and is occurring more and more often, such as water and ecosystem management, disaster risk reduction, coastal zone management, agricultural and rural development, services health, urban planning and / or regional development. Actions include technological measures, ecosystem-based measures and measures that promote behavioral change *.

*https://www.eea.europa.eu/it/themes/adattamento-al-cambiamento-climatico/intro

Model and behaviors to fight the climate change

In this module we want to present the “2030 Agenda”. The 2030 Agenda for Sustainable Development is an action program for people, the planet and prosperity signed in September 2015 by the governments of the 193 member countries of the United Nations. It incorporates 17 Sustainable Development Goals, SDGs, into a broad action program for a total of 169 “goals” or milestones. In our module we will focus on Goal 13: Promote action, at all levels, to combat climate change

Key concepts

- Climate change
- Sustainable development
- Responsible behaviorESPONSIBLE BEHAVIOR

Learning objectives: Provide the target group with awareness of this agenda drawn up by the United Nations regarding the goals and objectives to be achieved by 2030 and convey what are the behaviors to be implemented to safeguard our planet.

Duration: 1 hour

Content summary: The Development Goals follow up on the results of the Millennium Development Goals that preceded them, and represent common goals on a set of important development issues: the fight against poverty, the eradication of hunger and the fight against climate change, to name but a few. ‘Common goals’ means that they concern all countries and all individuals: no one is excluded, nor should they be left behind on the path necessary to lead the world on the path of sustainability.

Content body: The Sustainable Development Goals, SDGs, are a series of 17 interconnected goals, defined by the United Nations as a strategy “to achieve a better and more sustainable future for all”.

like :

1. Overcoming poverty,
2. Defeat hunger,
3. Health and well-being,
4. Quality education,
5. Gender equality,
6. Clean water and sanitation,
7. Clean and accessible energy,
8. Dignified work and economic growth,
9. Businesses, innovation and infrastructures,
10. Reduce inequalities,

11. Sustainable cities and communities,

12. Responsible consumption and production,

13. Fight against climate change,

14. Life underwater,

15. Life on earth,

16. Peace, justice and strong institutions,

17. Partnership for goals.

We want to analyze goal number **13: Fight against climate change.**

Climate change affects countries on all continents. It is disrupting national economies, with high costs for people, communities and countries today, and which will be even more serious tomorrow.

People are experiencing the significant impacts of climate change, such as changing weather conditions, rising sea levels and other even more extreme weather phenomena. Greenhouse gas emissions from human activities are the driving force behind climate change and continue to increase. They are currently at their highest level in history. If no action is taken, the average temperature of the earth's surface is projected to rise over the 21st century and likely to rise by 3 ° C this century - some areas of the planet are set for even greater global warming. The poorest and most vulnerable people are the most exposed.

There are currently accessible and flexible solutions to allow countries to become cleaner and more resilient economies. The pace of change is accelerating as more and more people use renewable energy and implement a whole range of measures that reduce emissions and increase adaptation efforts.

However, climate change is a global challenge that does not respect national borders. Emissions are everywhere and affect everyone. It is an issue that requires internationally coordinated solutions and cooperation in order to help developing countries move towards a low-carbon economy.

The milestones are listed below:

13.1 Strengthen resilience and adaptive capacity to climate-related risks and natural disasters in all countries,

13.2 Integrate climate change measures into national policies, strategies and planning,

13.3 Improving education, awareness and human and institutional capacity with regard to climate change mitigation, adaptation, impact reduction and early warning,

13.a Implement the commitment undertaken by the parties of the developed countries towards the United Nations Framework Convention on Climate Change, which provides for the mobilization - by 2020 - of 100 billion dollars a year, from all the countries adhering to the '' commitment made, to address the needs of developing countries, in a context of significant mitigation actions and transparency in implementation, and make the Green Climate Fund fully operational as soon as possible through its capitalization,

13.b Promote mechanisms to increase the effective planning and management capacity of

interventions related to climate change in least developed countries, in small island developing states, with particular attention to women and young people and to local and marginal communities.

Through education for sustainable development, schools must aim to develop the basic elements of their rights and duties as global citizens in children, so that they can:

Consequently adopt conscious choices in daily life (from food to tourism, from the use of energy to water ...), which take into account the repercussions of individual and collective choices on the various aspects of sustainability and the close link between environmental factors and social changes (ecosystems, terrestrial and marine and transitional, biodiversity, climate, poverty, migration, human rights, gender equality ...), and the uncertainty, which cannot be eliminated, which characterizes complex systems.

Cross-sectoral collaboration between business, governments and NGOs

Complex social and environmental issues call for broader collaboration across different sectors so as to instigate transformative social change. Despite the rapid economic and technological development, humanity faces numerous complex socio environmental issues such as poverty alleviation, resource degradation, and climate change. The scale and complexity of these issues prompt organizations from different sectors to convene diverse cross-sector partners such as researchers and community advocates to explore innovative solutions that effectively address these problems. Non-governmental organizations (NGOs) have become a key player in dealing with many economic, environmental, and social development issues. They are playing an increasingly important role in initiating, convening, bridging, and coordinating different actors into a social change process that emphasizes equity, long-term security, sustainable community, and inclusive human development over time and space. Nowadays, NGOs have played a major role for sustainable development at both national and international level and they also facilitate public and private sectors integrating sustainable development concerns into the decision-making process.*

What you will learn

The Power Of Cross Sector Partnerships.

Key concepts

- Cooperation
- Reskilling
- Ecology

Learning objectives: Strong and transparent communication, as the cornerstone of cooperation between companies, NGO governments.

Duration: 1 hour.

Application cases: Launched by the World Economic Forum in 2018, PACE is composed of CEOs from leading companies, government ministers from Europe, Asia, and Africa, as well as the heads of the world's largest environmental organizations. PACE works to accelerate the transition to a global circular economy through three activity pillars—leadership, learning, and projects—and currently focuses on four key sectors: food and agriculture, fashion and textiles, plastics, and electronics.

PACE is the global collaboration platform supporting public and private sector leaders to Commit, Act, Count, Campaign.

*https://www.mdpi.com/2071-1050/10/2/558/htm

It calls on companies, countries, and cities to commit to take action to double circularity by 2032.

It drives action, facilitated by collaboration in Action Agenda Programs, where PACE builds cross-sector/industry/regional partnerships to tackle issues that can be too complex to solve alone.

It supports leaders to measure progress by adopting relevant circular indicators, then set well-grounded, actionable targets to achieve the goal.

It drives ongoing commitments and actions in a global circular campaign which inspires action and demonstrates ambition leading up to COP27 .

Content summary: To maximize the impact of investment in skills, great potential is offered by strengthening joint action. Skills policies and interventions involve many actors: ministries, education providers and training, the industry itself, research organizations, social partners, chambers of commerce and employment are just some of the parties that agencies make skills development and retraining a reality.

Through concerted action it is possible to offer clarity to individuals and businesses throughout the value chain, reduce costs and focus on priorities.

Content body: As companies grow, they must navigate increasingly complex social, environmental, and supply chain challenges that they can't solve alone. Meanwhile, governments and donors increasingly rely on market forces, private sector innovation, and the economic opportunity created by companies to improve people's lives. The success of each sector is inextricably intertwined.

Climate change, poverty, and inequity are among the most critical issues of our time. Cross-sector collaboration leverages the strengths of companies, governments, and donors to accelerate progress on these and other complex issues in a way that benefits everyone.

Cross-sector collaboration is when two or more organizations work together across sectors – industry, no profit, and government – to achieve mutually beneficial outcomes. Successful collaboration may lead to the formation of a cross-sector partnership, in which partners formally agree to leverage their resources and funding to work toward shared, measurable goals.

A well-designed and effective cross-sector partnership benefits partners through:

Increased scale – Successful partnerships leverage combined resources to reach more people and amplify impact and results. They can also help companies develop relationships in new markets.

Replicability and sustainability – From the donor perspective, committed private sector partners can transform an otherwise time-bound development investment into a long-term, market-driven, scalable initiative. For companies, partnership success can encourage sustained and expanded investment and act as a blueprint for other regions and issues.

Improved effectiveness – Shared expertise and knowledge can spark innovation and unlock new opportunities and networks. Collaboration with trusted organizations or agencies can also help companies gain social license to operate.

Better efficiency – Coordination improves alignment and accelerates success while reducing individual funding commitments.

Systemic change – Increased visibility, greater spheres of influence, and coordinated collective action and co-investment improve our chances of progressing toward the U.N. Sustainable Development Goals (SDGs) and tackling the complex global challenges that threaten supply chains and communities alike.

As the world becomes more complex, it's never been more critical for organizations to work across sectors to achieve shared goals.*

*https://www.resonanceglobal.com/the-guide-to-cross-sector-collaboration#whatiscrosssectorcollaboration#whydoesitmatter

Design Thinking

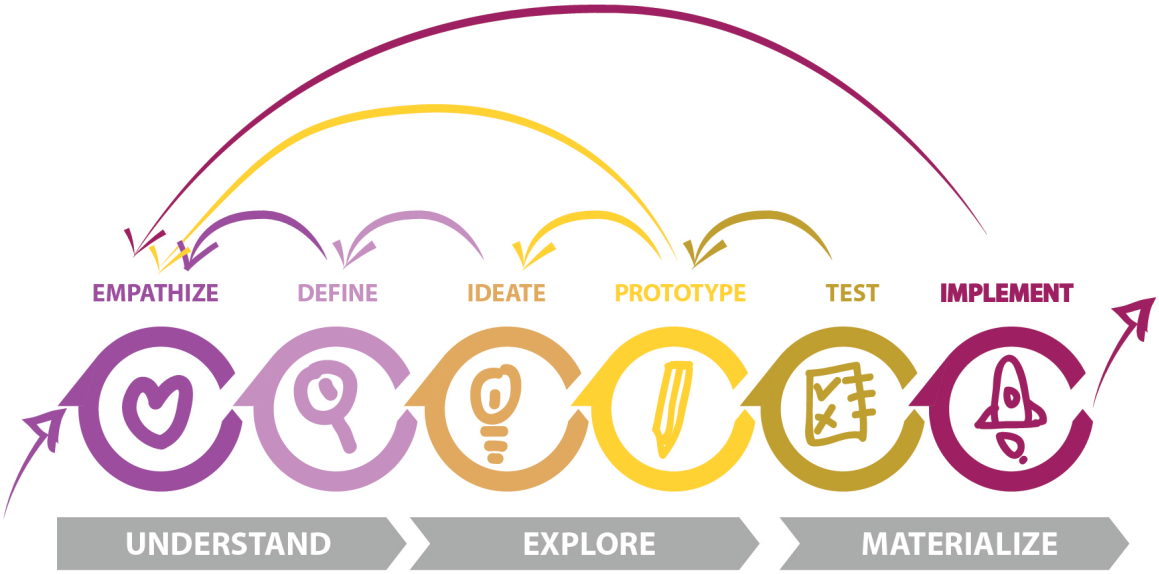
Learning objectives: This course places both problem solving and problem solvers (in this case you) into the spotlight, aiming at helping them address problem situations more efficiently. On this journey, we will examine some of the most popular design processes, identify their key characteristics, which we will later use to set up design processes that meet the particularities and needs of your own design teams.

Duration: 1 hour

Content body: Human-Centered Design has been evolving alongside technology. The more technology matures and is adopted by humans, the more the need for interfaces that are easy to use and, most importantly, address human needs is increasing.

There are several ways to apply Human-Centered Design when creating new experiences. In this section, we are going to examine one of the most popular ones: Design Thinking. Design Thinking was coined by IDEO's Tim Brown and David Kelley as well as Roger Martin. According to Tim Brown: "Design thinking is a human-centered approach to innovation that draws from the designer's toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success".

Design thinking is an approach to design, which also comes with a suggested process. The process consists of three phases (Understand, Explore and Materialize) and of six steps:



Understand

- **Empathize**, where we try to understand what our users do, think and feel, as well as what their problems are.
- **Define**, where all the research and knowledge about our users, our business objectives and learning goals are synthesized, highlighting problems of our users and opportunities for us to propose innovations.

Explore

- **Ideate**, where we brainstorm, producing as many ideas as possible. At this stage, ideas can be ambitious or far-fetched. The objective of this step is to help designers come up with as many ideas as possible.
- **Prototype,** where all the ideas that were previously proposed are grouped and selected. Ideas that are considered interesting and feasible are picked and become concrete through prototyping.

Materialize

- **Test,** where the ideas that have been prototyped are presented to users to get feedback. It is better to see how users interact with the prototypes instead of being asked about their experience. There are occasions where users express desires and opinions that are not in line with their actions when interacting with a system.
- **Implement,** where all the previous work is put together to produce an end product.

Design Thinking is not a linear process. On the contrary, Design Thinking encourages iterative work. This means that during the design process, we may need to empathize, define, ideate, prototype or test more than once. This depends on the size of our project and our team as well as our final objective.

The most important aspect to keep in mind from Design Thinking is that products and experiences are not created in one night. More importantly, even if you do have technical resources, the biggest challenge you have is not designing something right but designing the right thing. In other words, a beautiful interface may prove to be useless if it doesn't address the problems of your users. Design Thinking tries to address exactly that issue: by taking some time to understand your users, figure out their needs and think about solutions to fix their problems, you are already on a good path towards experiences that your users care about and will be impacted by. On top of this, in Design Thinking proposing ideas (good or bad ones) is not considered as a weakness but as a strength. Interesting experiences come from new and innovative ideas. Usually these ideas are considered crazy in the context of one product or instance but they are also the ones that drive innovation. By iterating many times on your products, through testing and receiving user feedback, you will eventually be able to refine those ideas.

Resources for Further Reading

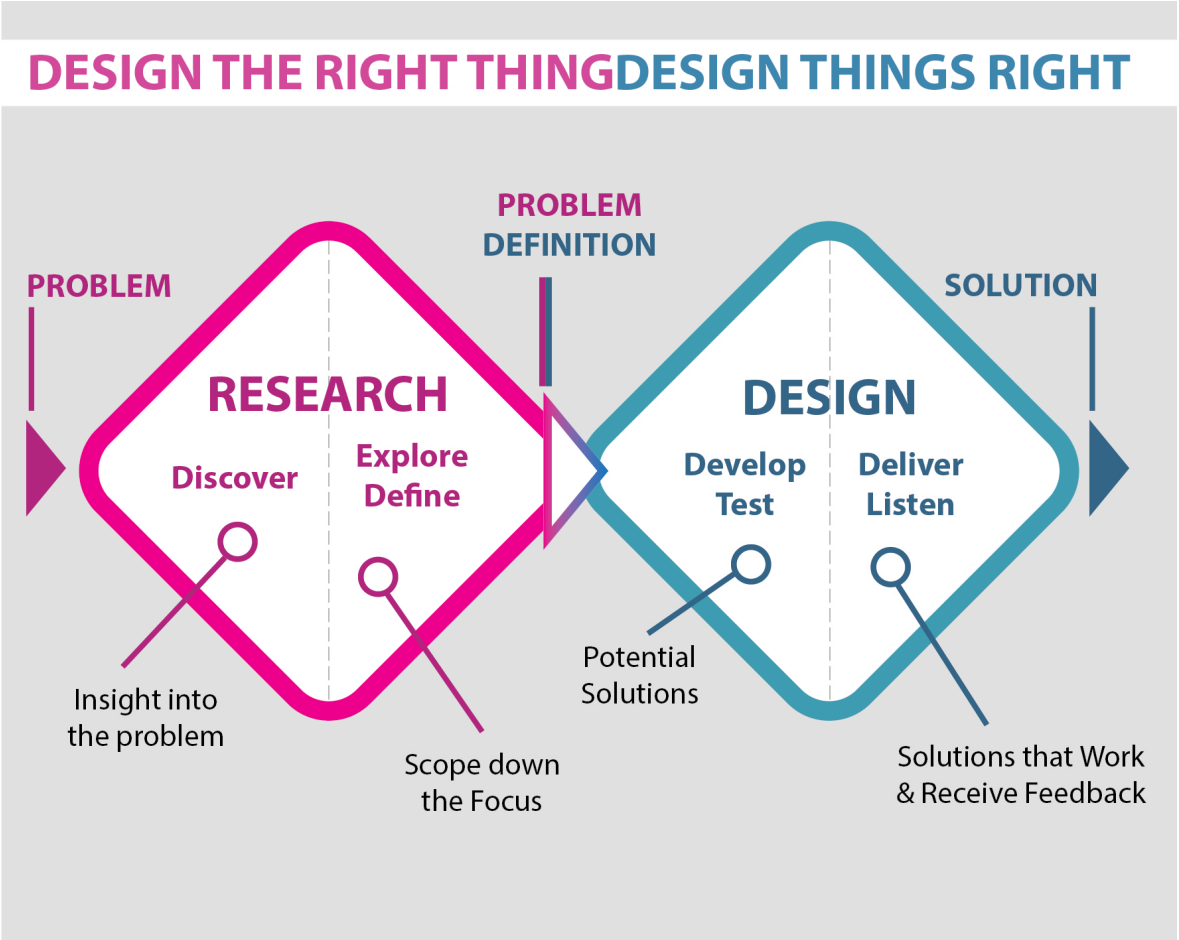
https://designthinking.ideo.com/
https://dschool.stanford.edu/resources-collections/a-virtual-crash-course-in-design-thinking
https://www.nngroup.com/articles/design-thinking/

Double diamond framework

Learning objectives: Using and applying the design principles of the double diamond framework.

Duration: 1 hour

Content summary: In 2004 the Design Council presented an innovation framework, aiming to address complex design problems, also referred to as the Double Diamond. This framework is represented in the form of two rectangles (or diamonds). Each diamond introduces opportunities for divergent thinking, during which designers explore issues at greater depth or through various perspectives and then for convergent thinking, during which designers take more concrete and focused actions.



Content body:

The Double Diamond describes four phases, which are:

Discover. During this phase designers and non-designers take time to better understand the problems they need to solve, gathering information about the organization, their customers, users, competition or any other important factor that will later help them come up with some solutions.

Define. Having collected different types of information from different sources eventually culminates into the definition of problems that need to be tackled by the design teams.

Develop. Based on previously defined problems, multidisciplinary teams (including designers and non-designers) come together, seek inspiration, brainstorm collectively or individually and co-create in a participatory manner.

Deliver. Since teams have come with a plethora of solutions during the Develop phase, at this phase, these solutions are tested. Solutions that don't work are rejected, while others are improved.

This is not a linear process as the arrows on the diagram show. Many of the organizations we support learn something more about the underlying problems which can send them back to the beginning. Making and testing very early stage ideas can be part of discovery. And in an ever-changing and digital world, no idea is ever 'finished'. We are constantly getting feedback on how products and services are working and iteratively improving them.

The design principles

The framework for innovation outlines four core principles for problem-solvers to adopt so that they can work as effectively as possible.

Put people first. Start with an understanding of the people using a service, their needs, strengths and aspirations.

Communicate visually and inclusively. Help people gain a shared understanding of the problem and ideas.

Collaborate and co-create. Work together and get inspired by what others are doing.

Iterate, iterate, iterate. Do this to spot errors early, avoid risk and build confidence in your ideas.

The methods bank

We have authored, adapted or adopted a portfolio of design methods which help our clients to identify and address their challenges and achieve successful outcomes. We have structured these methods in three areas to help them use the design process to explore, shape or build:

- Explore: challenges, needs and opportunities
- Shape: prototypes, insights and visions
- Build: ideas, plans and expertise

Creating a culture of success

The problems we face today require more than one idea, they require working with other organizations and supporting people to be part of the solution. As important as the process and principles organizations we adopt, is the culture of an organization and how it connects with citizens and partners.

Leadership is needed to encourage innovation, build skills and capability, provide permission for experimentation and learning. Strong leadership also allows projects to be open and agile, showing results along the way and being able to change.

Engagement is needed with people who are delivering the ideas and receiving them, but also with other partners who might have other ideas. Developing connections and building relationships is as important as creating ideas.

How do you use yours?

Reflection and iteration are at the heart of the framework for innovation. We're interested in finding out how you may have used the Double Diamond to solve a challenge, adapted it to meet your needs, or – like Design Council – added additional tools and techniques to achieve even greater results.

Contact us and tell us how you use yours or share any alternative approaches you are taking to tackle your challenges or if you'd like us help you apply the framework for innovation to your challenge.

References

https://www.designcouncil.org.uk/news-opinion/what-framework-innovation-design-councils-evolved-double-diamond

Questions - Chapter 2

Question 1: To be a green worker:

Answer 1: You must have obtained a degree

Answer 2: You must have specialized in the green economy

Answer 3: Neither is always necessary.

Question 2: The term "reskilling green skills" means:

Answer 1: Learn the skills

Answer 2: Retraining Skills

Answer 3: Search for skills.

Question 3: According to ILO, how many jobs are at risk if green skills are not restrained by 2030:

Answer 1: 72 million

Answer 2: 85 million

Answer 3: 45 million.

Question 4: How many forms of mobility have been recognized by the IOM ?:

Answer 1: 3

Answer 2: 5

Answer 3: 2

Question 5: The term "planned transfer" means:

Answer 1: people who move inside or outside their country for a variety of reasons, including environmental ones.

Answer 2: they concern communities that are moved to safer places due to the impossibility of remaining in territories irreversibly compromised by environmental events.

Answer 3: forced movements due to environmental disasters

Question 6: Which of these measures must be taken to limit the impacts of climate change?

Answer 1: Management of water resources and ecosystems.

Answer 2: Marine water management.

Answer 3: Continue the construction of buildings near the coastal areas.

Question 7: Which of the 17 objectives of the 2030 Agenda "is the one proposed by" Fight against climate change ?

Answer 1: 10

Answer 2: 8

Answer 3: 13

Question 8: Which of these goals is contained in "Objective 13"?

Answer 1: Improve education, awareness and human and institutional capacity for climate change mitigation, adaptation, impact reduction and early warning.

Answer 2: Strengthen efforts to protect and safeguard the world's cultural and natural heritage

Answer 3: By 2023, promote sustainable management of all types of forests, halt deforestation, restore degraded forests and significantly increase reforestation and reforestation everywhere

Question 9: What can education for sustainable development provide ?

Answer 1: Understanding the close link between environmental factors and social change.

Answer 2: Both answers are correct.

Answer 3: Educating to make conscious choices in daily life.

Question 10: How should communication on environmental issues be between companies, governments, NGOs and individuals?

Answer 1: Transparent, decisive and continuous

Answer 2: Sporadic and clear

Answer 3: Continuous and institutional

Question 11: What transitions are we experiencing right now?

Answer 1: Technological / Ecological

Answer 2: Technological / demographic

Answer 3: Demographic / ecological

Question 12: A well-designed and effective cross-sector partnership benefits partners through:

Answer 1: Replicability and sustainability

Answer 2: Transparency and security

Answer 3: Productivity and growth

Question 13: What are the two steps of the "Explore" phase present in the Design Thinking model?

Answer 1: Test and Implement

Answer 2:Empathize and Define

Answer 3: Ideate and Prototype

Question 14: What are the 3 main phases of the Design Thinking process?

Answer 1: Understand, Explore, Materialize

Answer 2: Empathize, Define, Ideate

Answer 3: Prototype, Test, Implement

Question 15: What are the 3 components of the "Build" area of the Double Diamond Framework?

Answer 1: Challenges, needs and opportunities

Answer 2: Ideas, plans and expertise

Answer 3: Prototypes, insights and visions

CHAPTER 3 - TOOLS

This chapter aims to provide knowledge about the Green Business Model, describing its components, presenting questions through which it allows the green entrepreneur to reflect and become familiar with the concept of sustainable business models.

What you will learn

With this chapter 2, the future green entrepreneur will able to learn:

- Brief examples of types of green business
- The components of the Business Model Canvas tool
- The components of the Sustainable or Green Business Model
- The benefits of applying the Model
- Concept of the Sustainable Business Models

Green Business Model

Key concepts

- Green Business Model;
- Process
- Value
- People
- Outcomes

Learning objectives:

- Understanding the concept of Green Business Model
- Learn the 16 questions that must be answered to apply or create a green or sustainable business

Duration: 1 hour

Content summary: This chapter aims to provide knowledge about the green business model, exploring its dimensions through questions provided in each dimension. The purpose of this content is for the green entrepreneur to reflect and build a “green” value proposition, taking into account the acquired knowledge.

In addition, it is possible to find the concept of sustainable business models, examples of types of green business and benefits of applying the model presented.

Content body: Please add the content you intend to write for this section

Reuvers (2015) states that green innovation does not imply new innovation practices, but requires a change in the company’s business model, so that everyone in the company understands:

- Why the company’s focus has been on reducing environmental impact;

- What they will do to promote a greener innovation model;

- How they’re going to make this change.

On the other hand, Bocken et al. (2014) propose eight types of green business, which we present in the following summary table.

GROUP	ARCHETYPES	EXAMPLES
TECHNOLOGY	Maximize material and energy efficiency	Low-production/ carbon solutions
	Create value from waste	Cradle for crib
	Substitute with renewables and natural processes	Energy innovations based on solar and wind energy
SOCIAL	Deliver functionality instead of property	Results-oriented PSS - pay per use
	Adopt an administration role	Ethical trade (fair trade)
	Encourage efficiency	Consumer adduction
ORGANIZATIONAL	Repurpose for society/ environment	Hybrid enterprises, social enterprises
	Develop scale solutions	Sourcing/crowd funding

FIGURE 1 - The eight types of Green Business adapted from (Bocken et. al., 2014)

Osterwalder & Pigneur (2010) developed the Business Model Canvas tool that is widely used to define and design a company's business model. With a simple structure, this model allows to identify nine fundamental components to portray the business model of the company, as presented in the figure below.

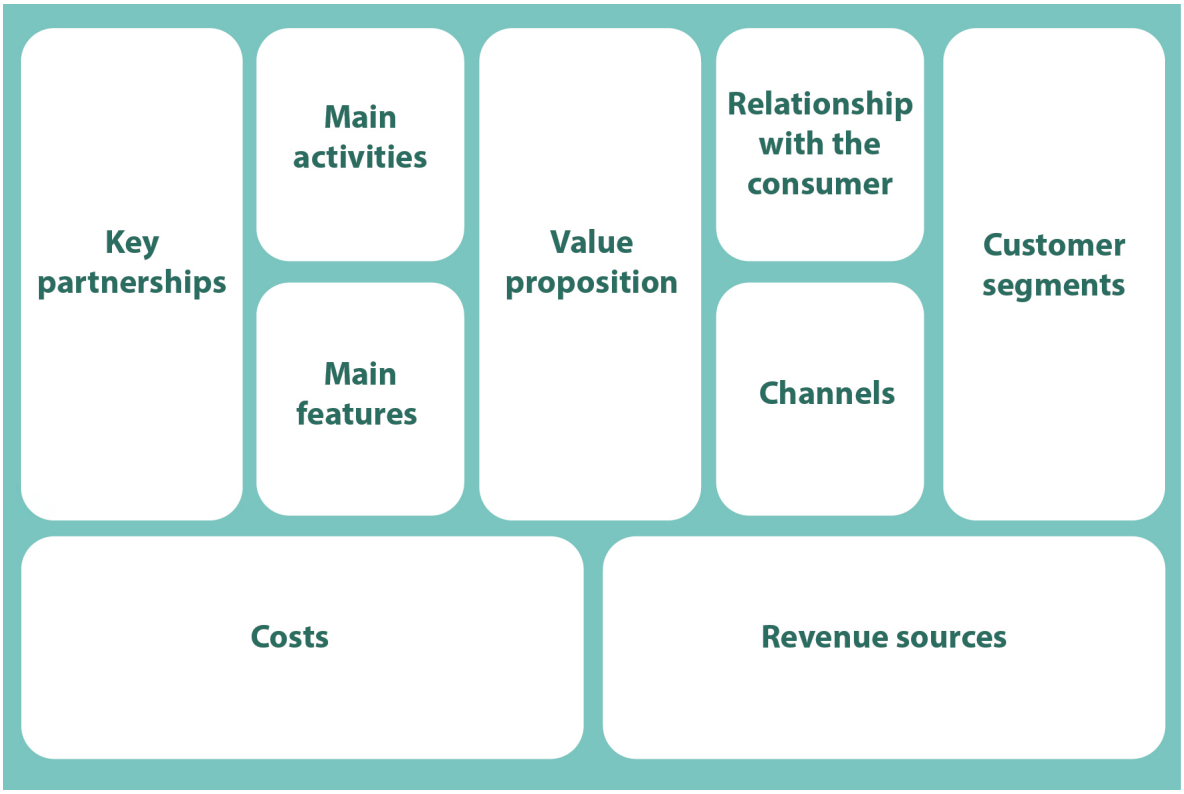


FIGURE 2 – Business Model overview - Business Model Canvas 1

Upward (2013, 2015) worked on this logic of ***Business Model Canvas*** in order to transform it into a model that also made sense for green and sustainable companies, thus creating the called ***Flourishing Business Canvas*** (FBC). In this model, as shown in Figure 2:

● There are three major systems in which the company belongs: the environment, society and the economy created by society;

● There are four perspectives: process, value, people and outcomes.

There is a logic that is expressed as follows:

- **Process:** how, where and with what does the business do?

- **Value:** what does the company do today and in the future?

- **People:** who does the business, does it for who and with who?

- **Outcomes:** Why? How does the business define and support your success?

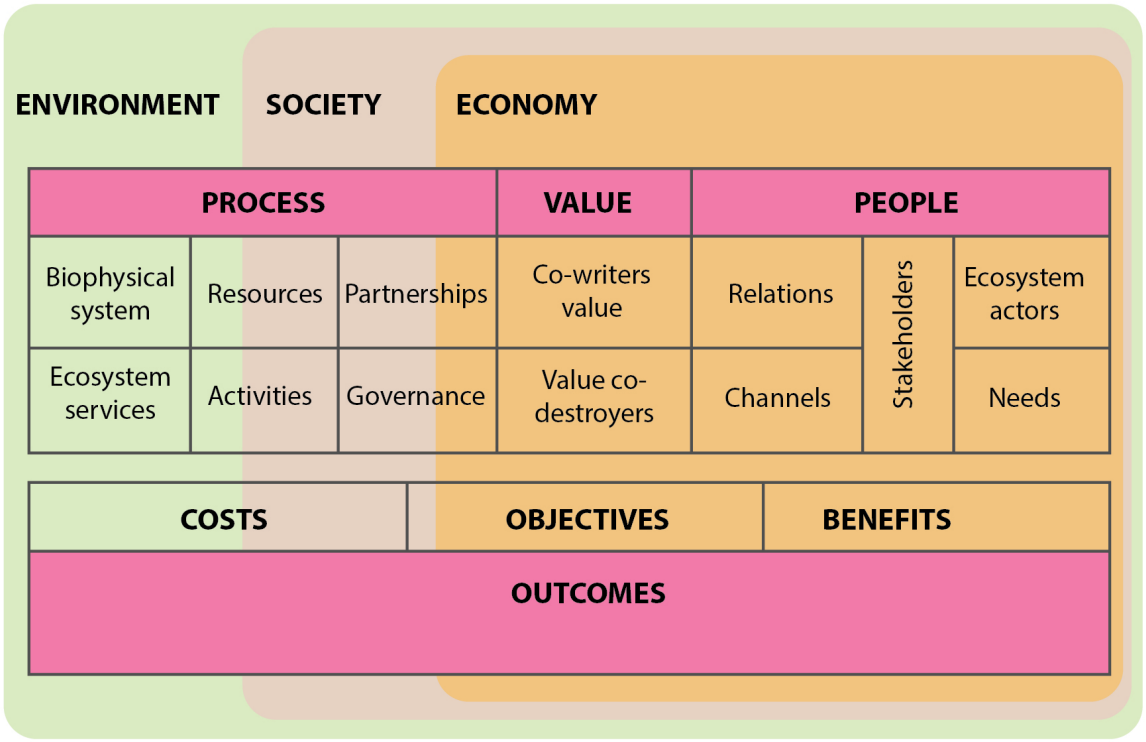


FIGURE 3 – Sustainable Business Model adapted from Flourishing Business Canvas

In this approach Upward (2013,2015) adds six components to the ***Initial Business Model Canvas***, thus creating 16 questions that must be answered when creating a green or sustainable business model (Broeck, 2017):

1. Objectives: What are the objectives of this company? What is the organization's definition of success? Environmentally, socially and economically?

2. Benefits: how the company chooses to measure the benefits of the Business Model; in each relevant unit? (Environmentally, socially and economically)

3. Costs: how the company chooses to measure the costs of the Business Model; in each relevant unit? (Environmentally, socially and economically)

4. Ecosystem actors: Who, and who may be interested in the fact that the company exists? What actors in the ecosystem represent the needs of individuals, groups, organizations? From the moment the ecosystem actor becomes involved with the company, he becomes a stakeholder.

5. Needs: What are the fundamental needs of Ecosystem Actors that the company intends to meet through co-creation of value?

6. Stakeholders: Who are the company's recognized stakeholders? When an actor of the ecosystems is part of the stakeholder, this has a great influence on all elements of the Business Model.

7. Relationships: What are the relationships with stakeholders that should be established, cultivated and maintained by the company through its channels? What is the function of each relationship in each value co-creation or co-destruction of value relevant to each stakeholder?

8. Channels: Which channels are used to communicate and develop relationships with stakeholders, allowing the co-creation or co-destruction of each of their value propositions.

9. Value co-creation: What value is co-created with each Stakeholder, meeting the needs of associated ecosystem actors in their perspective, present and future? Value co-creation is a company's positive value proposition.

10. Co-destruction of Value: What value is co-destroyed for each stakeholder, making it difficult to meet the needs of the associated actors of the ecosystem, from their perspective, present and future? Value co-destruction is a company's negative value proposition.

11. Governance: which stakeholders actually make decisions; Who is a recognized stakeholder, the company's objectives, the value proposition, and all other elements of your Business Model?

12. Partnerships: Which stakeholders are formal partners for the company? What resources do these partners allow the company to gain preferential access to? What activities do these partners perform for the company?

13. Resources: What tangible and intangible resources are needed for the company to achieve their objectives?

14. Biophysical stocks: What are the final stocks from which the company's resources are drawn and/or which final stocks are transformed by the company's activities necessary to achieve their objectives?

15. Activities: What value adding work, organized into business processes, is needed to design, deliver, and maintain the organization's value co-creations and value co-destruction, so that it can achieve their objectives?

16. Ecosystem services: these are sun-fed processes that use biophysical stocks to create flows that meet human needs: clean water, fresh air, vibrant soil, animal growth, etc. What flows that give rise to these benefits are necessary, impaired or activities of the company?

The three main benefits identified by Upward (2013,2015) and described by Broeck (2017) are:

1. Through issues associated with this ***Canvas Business Model***, stakeholders can think about the

business model and better understand opportunities for improvement in the three sustainability contexts (environmental, social and economic).

2. It is a possible answer, in a short way, to Canvas questions thus making understanding the Business Model more accessible.

3. This approach increases the possibility of identifying new risks, gaps and opportunities for business.

It can thus be seen that in literature and at the academic level there are theoretical frameworks that are the basis of the existence of Green or Sustainable Business Models.

Sustainable Business Models are those in which the concept of sustainability (creating value for multiple stakeholders and the natural environment) defines the company's driving forces as well as decision-making processes (Abdelkafi & Tausher, 2015).

Bibliographic references:

● Abdelkafi,N. & Tausher,K. (2015). Business models for sustainability from a system dynamics perspective. Organization and Environment. Available in: http://doi.org/10.1177/1086026615592930

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● Broeck, F. (2017). The flourishing Business Canvas; the new tool for Business Modelling? A multiple case study for the fashion industry.

● Osterwalder,A . & Pigneur, Y.(2010). Business Model Generation – A handbook for visionaries, Game Changers and Challengers. John Wiley and Sons, Inc., Hoboken, New Jersey.

● Reuvers, F. (2015). What is new about green innovation. University of Twente.

● Ribeiro, V.A., Fonseca, M.L. e Santos, S. (2018). Economia verde e economia circular: desafios e oportunidades. ISEP: Lidergraf

● Upward,A. (2013). Towards an Ontology and Canvas for Strongly Sustainable Business Models: A systemic Design Science Exploration (thesis)

● Upward, A. & Jones, P.H. (2015). An ontology for strongly sustainable business models: defining an enterprise framework compatible with natural and social science. Organization & Environment, Special issue: Business Models for Sustainability: Entrepreneurship, Innovation, and Transformation.

Business Model Canvas

Learning objectives: Know how to create and use a Business Model Canvas.

Duration: 1 hour

Content summary: The Business Model Canvas is an interesting exercise that helps us synthesize all our current insights into actionable solutions that can be presented to others. The Business Model Canvas presents us with few but crucial questions about the solutions that we want to build and, even if it's impossible to put all our thoughts and explanations in one page, it is a tool that is used by many organizations, institutions and start-ups as their first step to designing products.

Content body: Whether you have tried it or not, proposing and communicating your vision and ideas when designing products, services and platforms is not always that easy. There are several reasons why this happens:

- **The vision about what we want to create is not even clear to us.** We may have an idea or a hunch but between this hunch and a structured vision that accounts for some major cases of what we want to design for there is a difference.

- **We may be missing a technical background around the ways, technologies and trends for what we want to design.** For instance, we may have an idea about creating a new Learning Management System (LMS) for a specific audience but the technologies, platforms and trends around the LMS market may not be that clear to us.

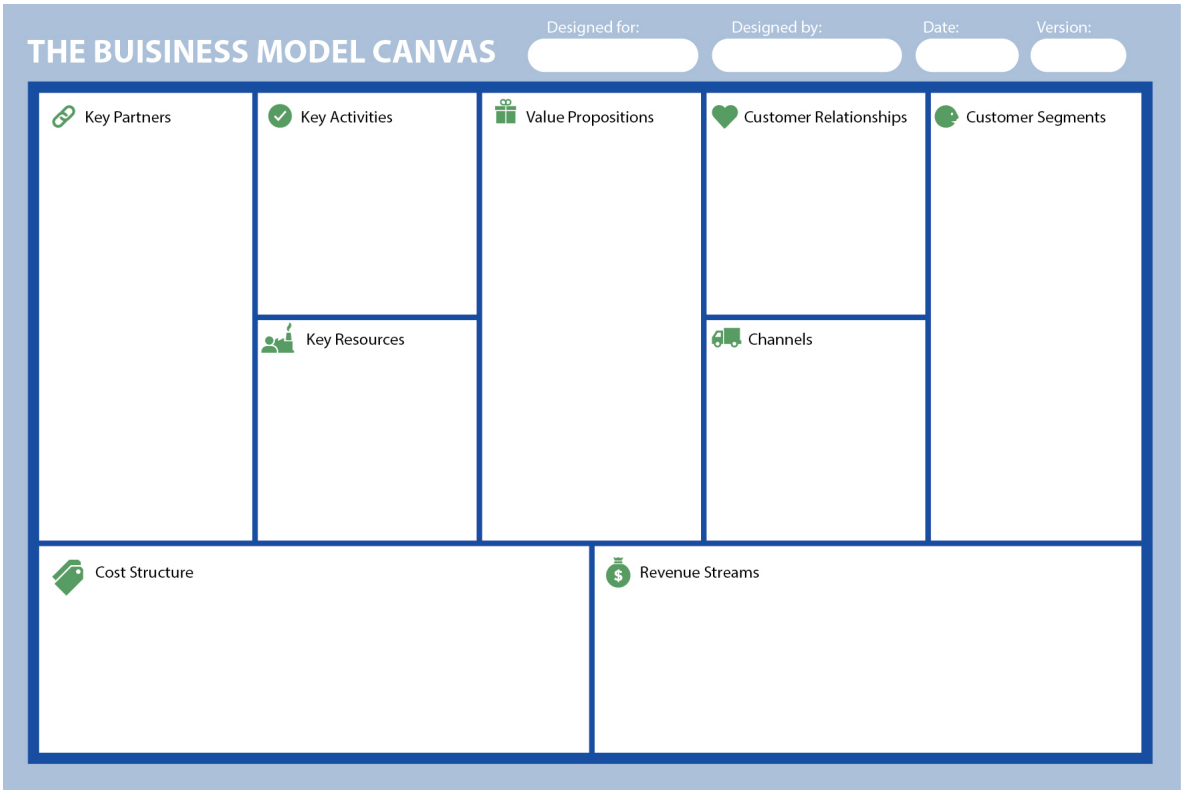
- **We may have an idea but we don't know who this idea would benefit and have value for.** A great mistake that entrepreneurs make is that first they invent a technology and then they try to figure out how and who could use it. In this case, you may end up having spent lots of resources on something that might not be of interest for your audience.

- **We may not have thought of the cost (both in terms of time, money, logistics and people).** For instance, people who aim at creating a high quality 3D adventure game, of a polishing quality similar to the one of Grand Theft Auto, should take into account that Grand Theft Auto V had a combined marketing and development budget of 170 Billion British Pounds.

The Business Model Canvas, proposed by Alexander Osterwalder (Link to the official website), addresses all those issues that were presented above.

The Business Model Canvas will help you address the following questions:

- What do you do? What does your idea, product or service do? Do you help people learn something? Buy something? Solve a problem they have? Address a need that they were missing?



- How do you do it? What are they key activities that your idea, product and service provides in order to achieve the objective that you presented before?

- Who will help you achieve your vision? If for instance you want to create a learning platform for national schools in France, the French Ministry of Education could offer you funding. This makes them a partner.

- What do you need? What are the resources that you need in order to achieve your vision? Will you need people with expertise?? Will you need technical infrastructure?

- Who do you help? Who are your customers? The business model canvas refers to them as customer segments, since it's possible that you may not have only one type of customer or user. For example, a Learning Management System has at least two types of users: people who want to learn and people who want to create training material. These different segments have different needs and expectations.

- How do you reach them? Through what types of channels are you going to deliver your product or service? If for example, you want to create an online website, the main distribution channel will be the website. However, if you want to create an ecosystem of services that informs for instance young students about diabetes, you may also decide to facilitate workshops and training as well as deliver printed material. In this case, your distribution channels will be the website, the workshops and the printed material.

- How do you interact? How do you keep and maintain relationships with your current user base and how do you expand them? This field refers to the way that you and your users expect to communicate and interact. Will it be through a forum? Will it be through a contact form? Will it be through organizing events, where you can interact with them and get their feedback? Will it be through customer support?

- What will it cost? In order for a product to become reality, there is always a cost. It may not always be financial but it may be in terms of time, people or materials.

- How much will you make? This question may not always be relevant for education. However, even for non-profit projects, a question that comes up is if the project will be self-sustainable and viable, meaning that no further funding or public help will be needed for it to continue offering the services it aspired to.

Sustainability reporting

The evolution of the role played by companies in the area in which they operate has gradually led to consider not only their economic dimension, but also the social and environmental dimensions, with a particular interest, initially, in communicating social aspects.

EU law requires certain large companies to disclose information on the way they operate and manage social and environmental challenges.

This helps investors, civil society organizations, 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.*

What you will learn: What is sustainability reporting and what is it for?

Key concepts

- Sustainability
- Responsibility
- Companies

Learning objectives: What is sustainability reporting and what is it for?

Duration: 1 hour

Application case: For the agri-food world, the challenge of sustainability has a slightly more important value than other sectors. For all companies, sustainability is a Must, customers demand it, investors ask for it, the regulations themselves are increasingly stringent. But for the world of food there is something more. Consumers want to bring to the table foods that are healthy, but which at the same time are not the result of compromises with the environment. The “From Farm to Fork” model (the Farm to Fork Strategy is at the heart of the European Green Deal aiming to make food systems fair, healthy and environmentally-friendly) is helping to increase the level of responsibility of agri-food companies also towards the “field”.

The Farm to Fork Strategy aims to accelerate our transition to a sustainable food system that should:

- have a neutral or positive environmental impact
- help to mitigate climate change and adapt to its impacts
- reverse the loss of biodiversity
- ensure food security, nutrition and public health, making sure that everyone has access to sufficient, safe, nutritious, sustainable food
- preserve affordability of food while generating fairer economic returns, fostering competitiveness of the EU supply sector and promoting fair trade

*https://ec.europa.eu/info/business-economy-euro/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en

Barilla's sustainable development path fits into this scenario, which in the last ten years has reduced CO2 emissions by 31% for each ton of finished product and which has achieved carbon neutrality with 4 brands.

The 2021 sustainability report of the Parma group tells of a sustainability project that passes through innovation and which in 2020 saw investments of 40 million euros in Research and Development and which in 10 years led to rethinking 476 products in order to improve the nutritional profile and redesign the management of the resources necessary for their production. A path that has led to a reduction of -31% in terms of CO2 equivalent emissions and a reduction of 23% in the use of water necessary for the production of a ton of finished product.

During 2020, the group then brought to the market 34 new products redesigned on the basis of a logic that aims to contribute to improving the food system in compliance with a diet that wants to be healthy and attentive to resources with products without added sugars, rich of fiber based on legumes and to avoid waste proposed with the formula of single portions.

Sustainability: we start from raw materials and sustainable agriculture

As mentioned, the path of sustainability starts from the field and the field means an increasingly careful and responsible choice of raw materials. In one year, the raw materials chosen "responsibly" have grown by 19%, that is with a careful relationship to the logic of sustainable agriculture and with the belief that the supply chains inspired by the criteria of sustainability are also the most resilient. In this process, the Barilla group involved 10,000 farms on the basis of two reference regulations that guide the procedures for the sustainable cultivation of soft wheat: Carta del Mulino and Carta di Harrys. 90% of durum wheat, a basic ingredient for pasta, is purchased from the local market and 42% through cultivation contracts. In particular, the sustainability report recalls that the "Durum Wheat Manifesto", launched in 2020, confirms Barilla's commitment to the Italian agricultural supply chain.

Attention to the "field" must not stop at the "land" but must also concern animals and must know how to extend the guarantee to the welfare of the animals that contribute to the production of raw materials. And it's not just about ensuring the legal requirements, but also the standards and criteria of animal welfare. In 2020 Barilla received the Special Recognition of the CIWF NGO, with which it also set up its own Barilla Guidelines on Animal Welfare.

Short supply chains and reduction of the environmental impact related to transport

But the focus on sustainability does not stop with cereals, even tomatoes and basil for the production of products such as sauces are grown starting from the principle of reducing the distance from production plants. (in this regard, the Barilla service chooses the ZERO startup to produce basil and other micro-vegetables in vertical farming).

And the issue of "distance" and transport is another aspect that has a very significant impact on sustainability. Barilla is committed to reducing the environmental impact related to the transport of both raw materials and finished products. Starting from March 2020, a 70% share of the products destined from Italy to Germany travel with an intermodal solution based on an agreement with GTS Logistic, which allows to reduce the environmental impact of transport by something like 6,000 tons of CO2 equivalent. A commitment that reduces the amount of heavy vehicles traveling on the roads.

Research and rethinking of production has also focused on energy management, reaching the goal of a share of 64% of energy produced from renewable sources.

Packaging: towards sustainable paper and cardboard

Another area of innovation is represented by the research and implementation of solutions for sustainable packaging. Barilla has chosen to embark on a path to use 100% recyclable packaging. The principles that guide this strategy include the use of paper and cardboard as a substitute for plastic in all situations where safety and product quality guarantee. Not only that, the same choice of virgin fiber paper and board rewards suppliers who guarantee the origin of these materials from responsibly managed forests.

Sustainability also means attention to territories and communities and from the 2021 sustainability report it emerges that in the first months of the Coronavirus emergency Barilla has implemented solidarity initiatives in the various countries with a commitment that has come to disburse 5.5 million euros and around 3,500 tons of donated products.*

Content summary: Through the sustainability report, companies communicate their performance and impacts on a wide range of sustainability topics, spanning environmental, social and governance parameters. It enables companies to be more transparent about the risks and opportunities they face, giving stakeholders a greater understanding of performance beyond economic results.

Building and maintaining trust in businesses and governments is key to achieving a sustainable global economy and thriving world.

Businesses and governments make decisions that directly impact their stakeholders, such as decisions relating to financial institutions, trade unions, civil society and citizens, and the level of trust they have in them. These decisions are rarely based on financial information alone and often consider risks and opportunities related to a variety of short- and long-term factors. Sustainability issues are increasingly integrated into these decision-making processes.

Content body: EU rules on non-financial reporting currently apply to large public-interest companies with more than 500 employees. This covers approximately 11 700 large companies and groups across the EU, including

- listed companies
- banks
- insurance companies
- other companies designated by national authorities as public-interest entities

Under Directive 2014/95/EU, large companies have to publish information related to

- environmental matters
- social matters and treatment of employees
- respect for human rights
- anti-corruption and bribery
- diversity on company boards (in terms of age, gender, educational and professional background)

*https://www.esg360.it/social-responsibility/barilla-riduzione-del-31-delle-emissioni-e-4-brand-carbon-neutral/

In June 2017 the European Commission published its guidelines to help companies disclose environmental and social information. These guidelines are not mandatory and companies may decide to use international, European or national guidelines according to their own characteristics or business environment.

In June 2019 the European Commission published guidelines on reporting climate-related information, which in practice consist of a new supplement to the existing guidelines on non-financial reporting, which remain applicable.

On 21 April 2021, the Commission adopted a proposal for a Corporate Sustainability Reporting Directive (CSRD), which would amend the existing reporting requirements of the NFRD.

The Commission's proposal for a Corporate Sustainability Reporting Directive (CSRD) envisages the adoption of EU sustainability reporting standards. The draft standards would be developed by the European Financial Reporting Advisory Group (EFRAG).

The standards will be tailored to EU policies, while building on and contributing to international standardization initiatives.

The first set of standards would be adopted by October 2022 .

Through the sustainability report, companies communicate their performance and impacts on a wide range of sustainability topics, spanning environmental, social and governance parameters. It enables companies to be more transparent about the risks and opportunities they face, giving stakeholders a greater understanding of performance beyond economic results.

Building and maintaining trust in businesses and governments is key to achieving a sustainable global economy and thriving world. Every day, businesses and governments make decisions that directly impact their stakeholders, such as decisions about financial institutions, trade unions, civil society and citizens, and the level of trust they have in them. These decisions are rarely based on financial information alone and often consider risks and opportunities related to a variety of short- and long-term factors. Sustainability issues are increasingly integrated into these decision-making processes.

As companies around the world increasingly embrace sustainability reports, different standards have emerged that allow a wide range of stakeholders to more effectively evaluate and compare sustainability reports. The most widely adopted framework is the Global Reporting Initiative Standards. It is linked to other forms of non-financial reporting, including triple bottom line reporting and corporate social responsibility (CSR) reporting.

Stakeholders play a crucial role in identifying non-financial risks and opportunities for organizations. Transparency achieved by involving a range of stakeholders in decision-making processes not only leads to better decisions, but also builds trust in businesses.

Driver

Better reputation:

A 2011 corporate reputation survey found that expanding transparency and reporting positive action are the two most important ways to build public trust in companies. The 2013 Boston College Center for Corporate Citizenship and EY survey revealed that more than 50% of respondents who published sustainability reports said these reports helped improve their company's reputation.

Meeting Employee Expectations:

Employees are a vital audience for sustainability reporting on sustainability. They are a vital audience because the presentation of the report helps to increase employee retention and loyalty. It has a positive impact on the workforce as a whole, which can ultimately improve the performance of the company.

Better access to capital:

The companies that compile the report rank first in sustainability and have a lower Kaplan-Zingales Index score of 0.6 - indicating fewer capital constraints - than that of companies with low sustainability.

Greater efficiency and waste reduction:

The sustainability report helps make the decision-making processes of organizations more efficient and, in turn, allows them to reduce the risks present throughout the existing supply chain. This process reduces waste, resulting in significant cost savings.

Advantages of the sustainability report:

Increase understanding of risks and opportunities;

Highlights the link between financial and non-financial performance;

Influences long-term management strategy and policy and business plans;

Simplify processes, reduce costs and improve efficiency;

Compare and evaluate sustainability performance against laws, regulations, codes, performance standards and voluntary initiatives;

Helps companies avoid getting involved in publicly disclosed environmental, social and governance failures;

Enables performance comparison internally and across organizations and sectors.

External benefits can include:

Mitigate negative environmental, social and governance impacts by improving reputation and brand loyalty;

Enable external stakeholders to understand the true value of the organization along with tangible and intangible assets;

Demonstrate how the organization influences and is influenced by expectations on sustainable development.*

*https://ecovadis.com/it/glossary/sustainability-reporting/

Value Proposition Canvas

Learning objectives: Knowing how to develop a Value Proposition Canvas to define, before the launch, the product or service that is the most consistent with what users expect.

Duration: 1 hour

Content summary: Found your business idea? Good. You still have to be sure that it corresponds to the needs of your future customers. Otherwise, it is better to change your mind very quickly or to change it, to avoid disillusionment and investments at a loss. Warning: testing the validity of an idea is often more complex than you think. For example, it is not because an offer works somewhere (another city, another department, another country, etc.) that it will work on your territory. Everything depends on the needs and uses of consumers in this specific territory.

Content body: What is the value proposition canvas?

The value proposition is what allows customers to understand if the solution solves their problem and therefore to learn more about the product or service. It's kind of a promise for the future ("This is what we bring you with our solution.").

The value proposition responds to a need that is not satisfied or insufficiently satisfied. It is ultimately what the customer is willing to pay. By extension, the value proposition canvas is the method for defining the value proposition. With this matrix, we focus on:

- the public;
- his problem and therefore his need;
- the answer we are going to give him.

The value proposition canvas: a matrix to meet the needs

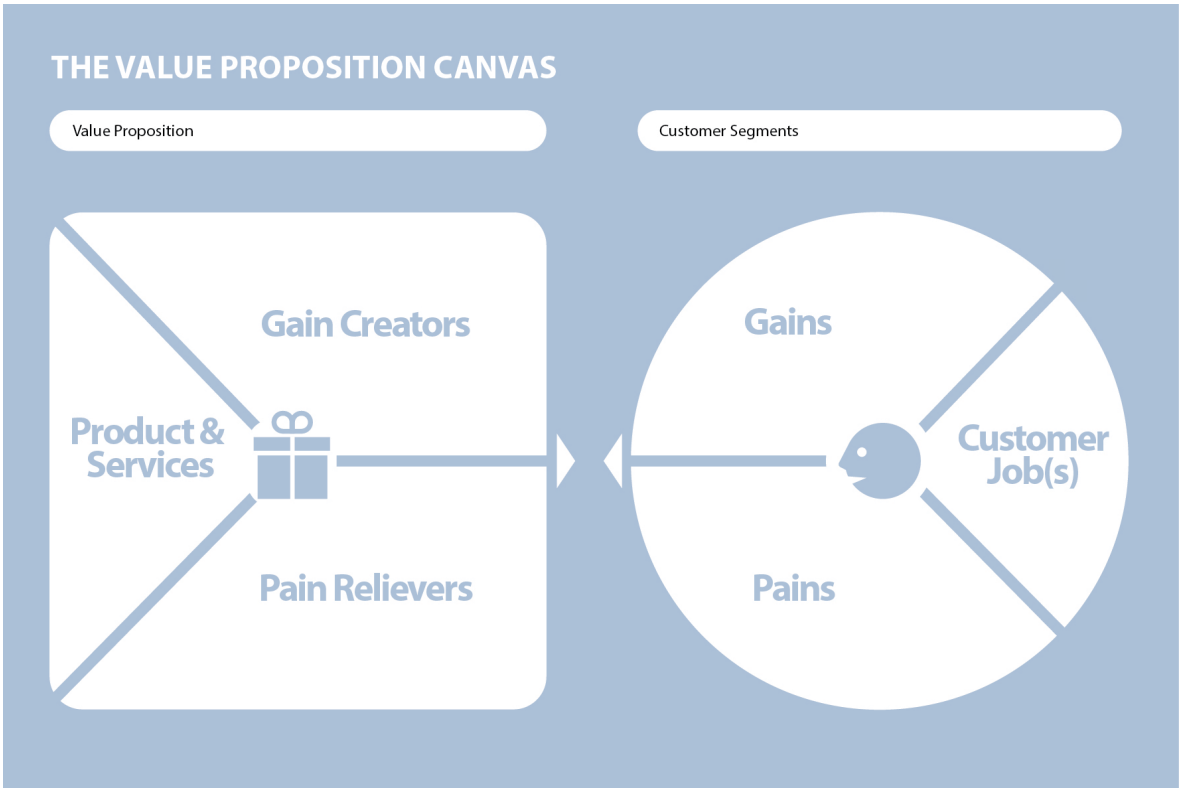
The value proposition canvas is a tool designed by Alexandre Osterwalder that allows you to:

- validate your target(s)
- validate the needs, problems, hopes of your target
- imagine how to respond in terms of services, offers, value proposition

This is the first step towards building the business model.

This matrix indeed invites you to question your customer on his problems, his hopes... and on the products and services which will help him to solve his problems, to create his hopes. Thus, you can possibly adjust your idea but also find additional products and services to offer to your customer. It will also allow you to differentiate yourself from your competitors.

You can print the canvas below.



How to use the Value Proposition Canvas

The matrix of the canvas is composed of two parts which mobilize different postures: empathy towards the target and creativity. We will detail each of these parts.

Empathy towards the target

In the right part of the canvas (the circle), you find several headings. They will allow you to very clearly define the problem of your customer and his state of mind.

Under "Customer Job(s) : Describe what a specific segment of customers is trying to do, or the problems it is trying to solve, or the needs it is trying to meet. Describe what he is trying to do (for example: travel from Paris to Nice), with whom if necessary (with his family), in what context he is acting (to go on a weekend), and possibly what emotional context he ris looking for (not to stress), as well as the actions he carries out (go to the train company website, compare with a carpooling website, etc.).

In the "Pains" section: indicate the negative emotions (anxiety, shame, fear...), the costs, undesirable situations and the risks that your client experiences or could experience before, during and after having done the work.

> *For example: What does the customer find too expensive? What makes him uncomfortable? Which solutions are insufficient towards your customers? What difficulties, challenges does the client encounter? What risks is your client afraid of? What keeps your client up at night? What common mistakes does your client make? What obstacles can prevent the customer from adopting your solution?*

In the "Gains" section: describe the expected benefits, desired by your client (joy, simplification, higher social status, etc.) or the benefits that would surprise him/her, including functional usefulness,

social, positive emotions and cost savings.

For example: What are they looking for? What are they dreaming of? How does your client measure success, failure? What increases the likelihood of adopting a solution? Which benefit seems most relevant? What benefits does your customer expect? What benefits would he be surprised to get? What savings would make your customer happy? What result does your client expect? How do current solutions delight the customer?

Creativity to meet the needs of the target

In the left part of the canvas (the square), you will describe, without setting limits or constraints, what you imagine to meet the needs of your target, which you now clearly visualize.

In the "Pain relievers" section: indicate what could relieve clients' pains. How do you eliminate or reduce negative emotions, unwanted costs and situations, and risks that your client experiences or could experience before, during, and after doing the job?

> *Note that there can be several "relievers" for a single "pain" and a "reliever" can respond to several "pains". Do they save money? To feel better? To provide a solution to the problems of underperformance? To put an end to the difficulties and challenges faced by customers? To eliminate the fear encountered? (trust, status…)? To eliminate risks? To help your clients sleep better? (worries, concerns)? To limit or erase common errors made by the customer (user errors)? To remove obstacles?*

In the "Gain Creators" section: indicate what could create gains for the client. How do you create benefits that your customer expects, desires, or would surprise him/her, including functional utility, social gains, positive emotions, and cost savings?

> *Again, there can be multiple "gain creators" for a single "gain" and one "gain creator" can respond to multiple "gains". Do they create savings that make the customer happy? Exceed customer expectations? Make the customer's life easier? Create positive social consequences sought by the client? Do something that customers are looking for? Achieve something customers dream of? Produce positive results corresponding to the success or failure criteria of your clients? Facilitate adoption?*

Realism after the creation phase

Finally, in the left part, section "products and services", you will define all the products and services that you could offer by taking up the ideas emanating from the "relievers" and "creators" but by reworking them to make products and services achievable a priori.

Once this work is done, you have:

- Your target(s) segmented according to a key element: their need / problem / hope.
- The offer it (they) need.

You therefore have the two key elements of your business model: the value proposition and the customer segments.

This method was designed for teamwork and requires an outside perspective to “challenge” you. Alone in front of your sheet, the results may be disappointing!

Personas

Learning objectives: Know how to create and use Personas.

Duration: 1 hour

Content summary: Personas are fictional characters that represent a portion of our user base. Based on our research information, we try to find attributes and characteristics of our audience and come up with personas, which describe major segments of our users.

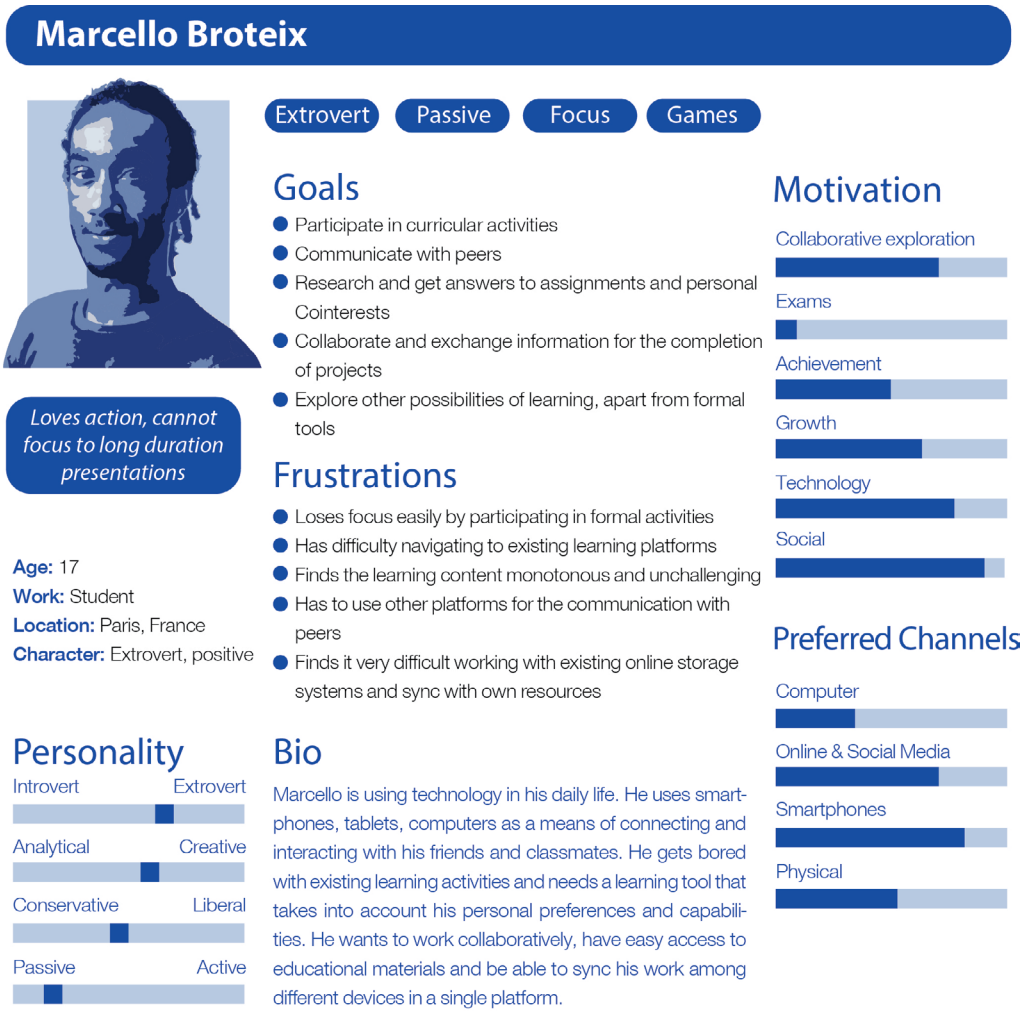
Content body: Being able to understand one’s audience, provides designers with the invaluable opportunity of anticipating possible issues and designing learning experiences that focus on this particular audience. A common software design practice that was followed in the past is, what software engineer Allan Cooper called, “the sum of all desired features”. So, before software solutions were developed, designers would do a survey, collect the needs of their users and would try to combine them in order to create products that would fit those demands. Practice has though indicated that users do not always know what they need beforehand. Don’t get me wrong, I do not say that knowing what your audience needs is not helpful. It is highly helpful and important. However, using this information in order to create intrinsically motivating experiences requires that designers can interpret this information in a meaningful way.

A helpful in cases like this are user personas. Persona is a Latin word for a person or a role and in this context personas represent fictional characters that represent a portion of our audience (personas were proposed by Alan Cooper and here is an article of his on this topic). By using personas, we try to represent typical users of a product and anticipate their reactions and choices. Since personas are proposed as a helping tool, they should be used to solve problems rather than create ones. So, bear in mind that:

- Personas should represent realistic potential users and not idealistic ones. Idealistic personas will not help you critically examine your audience and your potential design and they will only result in loss of time, energy and resources.
- For a typical product, you should not have more than two to four personas. Personas are ways of trying to critically examine your designs for a set of typical users.
- In instructional design, there are some occasions that personas may be useful and some others where personas will have a negative effect on the final design. If your audience consists of users very different from each other that require special provisions, then it is

possible that personas may not be a helpful tool and you should proceed by individually examining your users, especially if their size is limited. In case that you design solutions for a large audience with some homogeneity, then personas might prove to be helpful.

● Personas should give as much information as possible for a potential user, related to the topic of what you want to design for. Personas should also be constructed based on common patterns between a targeted audience. For instance, for the design of a game about teaching literacy to high school students on a national level, the age, habits, access to technology, development level of literacy skills are attributes that can describe all potential players of the game and should be listed as attributes of a persona.



Of course, there is not just one correct way of creating a persona. Design situations differ from case to case. What is important though is for you and your team to form a set of fictional characters that correctly represent their audience and try to anticipate their actions and reactions to different instances.

Resources for further reading

https://www.usability.gov/how-to-and-tools/methods/personas.html
https://www.microsoft.com/en-us/research/wp-content/uploads/2017/03/pruitt-grudinold.pdf
https://theblog.adobe.com/putting-personas-to-work-in-ux-design-what-they-are-and-why-theyre-important/

Jobs-to-be-done

Learning objectives: Using and applying the Jobs-to-be-done principles.

Duration: 1 hour

Content summary: The concept of "job to be done" was developed by Clayton Christensen and Michael Raynor. He suggests that people are less interested in the products they buy than in the services these products render to them. This concept is not new. In the 1960s, Theodore Levitt, a marketing professor at Harvard Business School, had already noticed that "people don't need drills. They need holes in their walls. »

Content body: The principles of Jobs-To-Be-Done

From the JTBD perspective, **user** or **customer segments** are not dependent on demographic or psychological data. In fact, everyone is trying to achieve the same result, based on their own criteria. The chronological aspect does not come into play because if the products or services evolve, the Job-To-Be-Done is stable.

The "job" is the result that the user actually wants to accomplish, his goal. This is why a person buys or uses a company's products or services. His reasons for choosing a particular product or service are conscious and unconscious. These are the expected benefits, or success criteria, called Functional Jobs and Personal Jobs.

Functional jobs correspond to the **essential tasks to achieve the objective**, to the instructions that allow the work to be accomplished. This is the functional dimension. In a way, these are objective benefits, or success criteria.

Personal Jobs, the more personal criteria, are divided into two categories: Emotional Jobs and Social Jobs.

1. **Emotional Jobs** are all the emotions that the user wants, or fears, to feel while performing the tasks.
2. **Social Jobs** refers to how the user wants to be perceived by others. These criteria lead to Job-To-Be-Done, and therefore to the choice of the solution that will make the job successful.

Concretely, it is therefore necessary to find adequate solutions in relation to the objectives of the users, while taking into account their sentimental and social considerations.

Advantages and limitations

Applied to UX research methods, Job-to-Be-Done is divisive. According to its advocates, adopting this perspective helps teams focus on real user problems in order to find solutions. As we will see below, the way of conducting user interviews, from a JTBD perspective, seems less restrictive than with personas. Finally, Jobs-To-Be-Done could help create more meaningful personas.

Others consider that JTBDs do not sufficiently take into account, compared to personas, the context of use of products or services. In addition, erasing demographic and sociological aspects (name, age, sex, profession, etc.) would prevent you from feeling empathy for users. Finally, this way of determining user needs would be unsuitable for certain complex products or services. Many nevertheless agree to see it, at the very least, as a complementary tool to personas.

To simplify, the persona helps to understand archetypes of application users. The personas method shows us how their motivations can be different and what behaviors are similar. In contrast, the Jobs-to-Be-Done theory focuses on the concrete results expected by users.

JTBD interviews

The steps are similar to those used to build personas: user panel interviews, use of existing quantitative data, analysis and synthesis. On the other hand, the way of conducting the interviews, of organising and then using the data is different. There are many guides and kits to download online for conducting interviews.

Sample JTBD interview

Switch interviews, for example, which we might translate into English as “change interview” or “transition interview”, are used to understand why the customer chooses or rejects a product. What process leads him to make this decision? What does the user expect from the product? What is its value to him?

Preferably, the team chooses to interview someone who has either recently purchased the product or service (within the previous 30 days), chosen a product or service similar to the company’s, or rejected a product or service to prefer that of a competitor. Chronologically, the user is assumed to

have bought or rejected it by following this path:

1. The first thought: the problem to be determined. The user begins to search for a solution passively.

2. First unknown event: The urge to find a solution increases and the user begins an active search.

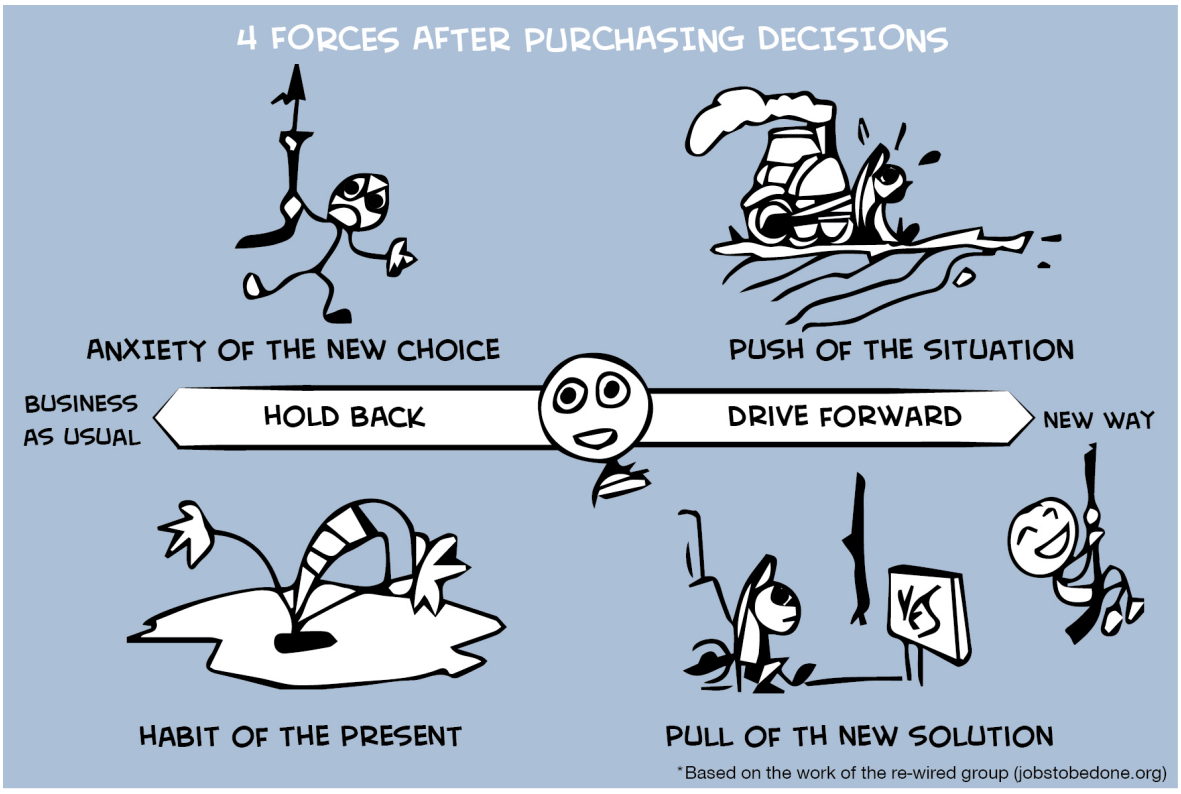
3. Second unknown event: He compares products or services to solve his problem, inquires, etc. The decision-making process takes place.

4. Purchase of the product or service and consumption.

The first questions to ask him might be: when did you first think of buying this product? What happened that day? Was anyone you have during the research phase? One of the limits being that you have to rely on the memory and the sincerity of the user.

Then, according to JTBD, four "forces" are at work as the user transitions from one behavior to another:

- The evolution of the situation (push of the situation): it does not work as I would like, I wish it was better. Why ?
- Pull of the new solution: This new solution might be better. What are the arguments? The answer may be price, features offered, etc.
- Habits of the present: Habits that cause resistance to change. For example, if I persevere, it will work better or the current application also has advantages. What are these habits?
- Anxiety of the new solution: What is the user afraid of with this product? Why is he anxious?



Here too, the objective is to obtain their answers in order to identify the obstacles (pain point), benefits and needs. It will then be possible to take advantage of these interviews to design or improve a product or service. However, nothing prevents you from creating a persona sheet to which you add elements from these JTBD-focused interviews.

Questions - Chapter 3

Question 1: According to Reuvers (2015), green innovation does not imply new innovation practices but requires _____.

Answer 1: only concern about high profit.

Answer 2: only reducing environmental impact.

Answer 3: a business model change.

Question 2: According to Osterwalder & Pigneur (2010) what are the nine components identified in the Business Model Canvas tool?

Answer 1: Key partnerships, main activities, main features, costs, value proposition, relationship with the consumer, channels and customer segments.

Answer 2: Key partnership, main activities, main features, costs, relationship with the consumer, customer segments, channels and value proposition.

Answer 3: Key partnership, main activities, main features, costs, value proposition, relationship with the consumer, channels, revenue sources and customer segments.

Question 3: The flourishing Business Canvas, describes three major systems in which the company belongs and four perspectives. What are the four perspectives?

Answer 1: Environment, World, Economy and Energy.

Answer 2: World, Economy, Process and Problems.

Answer 3: Process, Value, People and Outcomes.

Question 4: The Farm to Fork strategy aims to accelerate our transition to a sustainable food system which should:

Answer 1: have a neutral or positive environmental impact.

Answer 2: have a positive impact only on animals.

Answer 3: have a positive impact only on the earth.

Question 5: Through the sustainability report, companies communicate:

Answer 1: communicate their performance and impacts on a wide range of sustainability topics, spanning environmental, social and governance parameters.

Answer 2: their way of promoting climate change.

Answer 3: what is their reputation based on the feedback they receive annually from consumers.

Question 6: They play a crucial role in identifying risks and non-financial opportunities for organizations:

Answer 1: NGO

Answer 2: Government

Answer 3: Stakeholder

Question 7: What do you need to write in the "Pain relievers" section?

Answer 1: To indicate what could create gains for the client.

Answer 2: To indicate the negative emotions (anxiety, shame, fear...).

Answer 3: To indicate how you eliminate or reduce negative emotions.

Question 8: Select the correct sentence regarding Personas

Answer 1: Personas should represent idealistic potential users.

Answer 2: For a typical product, you should have more than four personas.

Answer 3: Personas should be constructed based on common patterns between a targeted audience.

Question 9: What are the "Emotional Jobs" from the JTBD theory?

Answer 1: Emotional Jobs refers to how the user wants to be perceived by others.

Answer 2: Emotional Jobs are all the emotions that the user wants, or fears, to feel while performing the tasks.

Answer 3: Emotional Jobs are jobs related to taking care of others.

Solutions to the questions

Correct answers - Chapter 1

Question 1: One sustainable project is:

Answer 3: the project who cares about environmental, social and economic impact.

Question 2: What is eco-innovation?

Answer 1: any innovation that translates into an important step towards sustainable development, reducing the impact of our modes of production on the environment.

Question 3: What are the principles associated with the eco-entrepreneur?

Answer 1: Reduction of garbage, reduction of gas emissions, reduction of hazardous chemical residues, reuse of industrial waste as raw material, use of sustainable energy reducing its use in excess.

Question 4: What is the factor affecting the transport industry recently?

Answer 1: Covid-19

Question 5: What problems digital communication can't solve?

Answer 2: Social isolation

Question 6: What problems can good logistics solve?

Answer 3: Reduced transportation costs and pollution

Question 7: What danger is posed by CO2?

Answer 2: Heating up the planet

Question 8: How is clean energy defined?

Answer 3: Zero emission

Question 9: What is the primary benefit of renewable energy?

Answer 1: Cannot be depleted

Question 10: What is the definition for water consumption?

Answer 3: The difference between pumped water and water returned to the source

Question 11: What are the causes of air pollution?

Answer 2: Smoke and car emissions

Question 12: How the water crisis can't be solved?

Answer 3: Building new factories

Question 13: Where can I find the latest events on Circular Economy?

Answer 1: in the Event section of the CEAP page

Question 14: Is there a sector-specific page for my area of work?

Answer 3: Yes in the EU Green Deal page and CEAP page

Question 15: Where can I find more information and materials about the possibilities offered by the EU?

Answer 1: In the Documents sections of the EU Green Deal and CEAP

Question 16: Which one is the EU leader country in the green initiatives?

Answer 2: The Netherlands

Question 17: What do we have at the top of the Water hierarchy?

Answer 3: Prevention

Question 18: How many kilograms of municipal waste do Europeans produce per year?

Answer 1: More than 400kg

Question 19: At which stage of the EU Waste Hierarchy can we find the Preparation for Reuse?

Answer 1: Second, after Prevention

Question 20: Why should I commit myself to reuse?

Answer 2: For its waste saving, networking possibilities and economic positive impacts

Question 21: Who can engage in reuse?

Answer 2: Households, Start-ups, NGOs and associations

Correct answers - Chapter 2

Question 1: To be a green worker:

Answer 3: Neither is always necessary.

Question 2: The term "reskilling green skills" means:

Answer 2: Retraining Skills

Question 3: According to ILO, how many jobs are at risk if green skills are not restrained by 2030:

Answer 1: 72 million

Question 4: How many forms of mobility have been recognized by the IOM ?:

Answer 1: 3

Question 5: The term "planned transfer" means:

Answer 2: they concern communities that are moved to safer places due to the impossibility of remaining in territories irreversibly compromised by environmental events.

Question 6: Which of these measures must be taken to limit the impacts of climate change?

Answer 1: Management of water resources and ecosystems.

Question 7: Which of the 17 objectives of the 2030 Agenda "is the one proposed by" Fight against climate change ?

Answer 3: 13

Question 8: Which of these goals is contained in "Objective 13"?

Answer 1: Improve education, awareness and human and institutional capacity for climate change mitigation, adaptation, impact reduction and early warning.

Question 9: What can education for sustainable development provide ?

Answer 2: Both answers are correct.

Question 10: How should communication on environmental issues be between companies, governments, NGOs and individuals?

Answer 1: Transparent, decisive and continuous

Question 11: What transitions are we experiencing right now?

Answer 1: Technological / Ecological

Question 12: A well-designed and effective cross-sector partnership benefits partners through:

Answer 1: Replicability and sustainability

Question 13: What are the two steps of the "Explore" phase present in the Design Thinking model?

Answer 3: Ideate and Prototype

Question 14: What are the 3 main phases of the Design Thinking process?

Answer 1: Understand, Explore, Materialize

Question 15: What are the 3 components of the "Build" area of the Double Diamond Framework?

Answer 2: Ideas, plans and expertise

Correct answers - Chapter 3

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