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BOSS

WOMEN IN FAMILY BUSINESSES

Heritage Business Strategies for Sustainable Development

Work package 3

Training Programme For Leader Women in Europe Family Businesses

2022-1-SE01-KA220-ADU-000087596

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BOSS
HERITAGE BUSINESS STRATEGIES

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GREEN ENTREPRENEURSHIP

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1. Introduction

This module gives additional information with a specific focus on green aspects of entrepreneurship. It is a fact that over the last years the attention on the sustainability issues has become more and more important. At international level many policy strategies have the “green issue” as main priorities in designing and implementing activities to be undertaken. As a consequence, even on the entrepreneurship side the attention on green and sustainability got e remarkable room: not only new business products and services must take into consideration this shift, but also knowledge and competences to be developed must be aligned with the “green revolution” we are called to address. With this last module, we aim to focus more on the “green side” of the concept of entrepreneurship, giving to learners some elementary contents about how the green issues can be incorporated in the entrepreneurship ideas and what can be the practical benefits of it. Moving from this point, the first chapter represents a kind of introduction on the main terms, definitions and theoretical knowledge linked to the green topics: what we mean for “sustainability”, “sustainable development”, “sustainable business”, and then “green economy” and “natural capital”. In the second chapter we introduce the GreenComp Framework (the European Sustainability Competence Framework) with its main characteristics with the aim to provide to learners with a clear picture of the official European understanding of green competences; as second step of the chapter we provide a compared visualisation with the EntreComp framework (The European Entrepreneurship Competence Framework) in terms of areas, competences and descriptors/indicators, in order to let learners better understanding the two frameworks and finding potential common grounds for linking the two frames of competences. The third and final chapter is more business-oriented, by giving practical information on the needed shift from linear to circular economy and then supporting learners in a step-by-step process on how to design and to implement new business models based on the principle of circular economy.

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2. Skills & Knowledge Table

The content in this module is linked to the BOSS Competences Framework (WP2) and will offer you introductory information and tools to develop the following skills and knowledge:

CONTENT	LEARNING OUTCOMES	
	SKILLS FOR TARGET GROUP	KNOWLEDGE FOR TARGET GROUP
Sustainability and sustainable businesses	to be able to recognise the main sustainability principles in the businesses processes	to have knowledge about the basis of sustainability, the three pillars of the sustainable development and the main forms of sustainable businesses
Green economy and Natural Capital	to be able to read and to understand the future trends of economy according to the milestones of the concepts of Green Economy and Natural Capital	to have knowledge about the principles and main contents of Green Economy and Natural Capital in the future trends of economy
The GreenComp framework	to be able to recognise and to apply the competences of the framework in designing and implementing personal actions as citizens	to have knowledge about the four areas of the GreenComp in terms of competences and relative descriptors
How to link GreenComp and EntreComp framework	to be able to recognise and to effectively mix the competences of the two frameworks in the process of developing "green entrepreneurial" actions	to have a comprehensive knowledge of both the frameworks in terms of competences and related indicators/descriptors
From linear to circular economy	to be able to identify the main steps (including the competences to be developed) to make the shift from linear to circular economy	to have knowledge about how to shift the mindset from linear to circular economy
Designing and implementing new business models based on the concept of circularity	to be able to think and to design business processes based on the principles of the circular economy	to have knowledge about the main types and characteristics of business models based on the concept of circular economy

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3. Green Entrepreneurship

3.1. Green Transition

3.1.1. Sustainability

One of the first things to clarify from the beginning when we talk about these topics, it the light difference between the concepts of sustainability and sustainable development. Very often, these concepts are mixed and used interchangeably, despite their conceptual difference. A good explanation is provided by the GreenComp, the European sustainability competence framework: “Sustainability is best described as a long-term goal, such as attaining a more sustainable world, while sustainable development, like the word suggests, refers to the many processes and pathways used to stimulate development, or achieve progress, in sustainable ways”.

Sustainability focuses on meeting the needs of the present without compromising the ability of future generations to meet their needs.

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In other words, sustainability means creating a balance between economic, environmental, and social considerations, so that resources are used in a way that is responsible and efficient, and that meets the needs of all people, both now and in the future.
Sustainability involves finding ways to use resources, such as energy, water, and raw materials, in a way that minimizes waste and pollution, reduces greenhouse gas emissions, and protects biodiversity and natural ecosystems. It also involves promoting social equity and fairness, so that everyone has access to the resources they need to live a healthy and fulfilling life, and that there is a fair distribution of benefits and costs across society. In essence, sustainability is about creating a world where people can thrive, while also protecting the planet for future generations.

The concept of sustainability is composed of three pillars: economic, environmental, and social.

The Environmental Pillar
The environmental pillar often gets the most attention. Companies are focusing on reducing their carbon footprints, packaging waste, water usage and their overall effect on the environment. Companies have found that have a beneficial impact on the planet can also have a positive financial impact. Lessening the amount of material used in packaging usually reduces the overall spending on those materials, for example.

One of the challenges with the environmental pillar is that a business's impact are often not fully costed, meaning that there are externalities that aren't being captured. The all-in costs of wastewater, carbon dioxide, land reclamation and waste in general are not easy to calculate because companies are not always the ones on the hook for the waste they produce. This is where benchmarking comes in to try and quantify those externalities, so that progress in reducing them can be tracked and reported in a meaningful way.

The Social Pillar
The social pillar ties back into another poorly defined concept: social license. A sustainable business should have the support and approval of its employees, stakeholders and the community it operates in. The approaches to securing and maintaining this support are various, but it comes down to treating employees fairly and being a good neighbour and community member, both locally and globally.
On the employee side, businesses refocus on retention and engagement strategies, including more responsive benefits such as better maternity and paternity benefits, flexible scheduling, and learning and development opportunities. For community engagement, companies have

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come up with many ways to give back, including fundraising, sponsorship, scholarships and investment in local public projects.

The Economic Pillar

The economic pillar of sustainability is where most businesses feel they are on firm ground. To be sustainable, a business must be profitable. That said, profit cannot trump the other two pillars. In fact, profit at any cost is not at all what the economic pillar is about. Activities that fit under the economic pillar include compliance, proper governance and risk management.

Sometimes, this pillar is referred to as the governance pillar, referring to good corporate governance. This means that boards of directors and management align with shareholders' interests as well as that of the company's community, value chains, and end-user customers. With regard to governance, investors may want to know that a company uses accurate and transparent accounting methods, and that stockholders are given an opportunity to vote on important issues. They may also want assurances that companies avoid conflicts of interest in their choice of board members, don't use political contributions to obtain treatment and, of course, don't engage in illegal practices.

The concept of sustainability according to Europe

Economic growth is not an end in itself. An economy must work for the people and the planet. Climate and environmental concerns, technological progress and demographic change are set to transform our societies profoundly. The European Union and its Member States must now respond to these structural shifts with a new growth model that will respect the limitations on our natural resources and ensure job creation and lasting prosperity for the future.

Agenda 2030: the 17 Sustainable Development Goals

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in a global partnership.

GOAL 1: No Poverty

GOAL 2: Zero Hunger

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GOAL 3: Good Health and Well-being

GOAL 4: Quality Education

GOAL 5: Gender Equality

GOAL 6: Clean Water and Sanitation

GOAL 7: Affordable and Clean Energy

GOAL 8: Decent Work and Economic Growth

GOAL 9: Industry, Innovation and Infrastructure

GOAL 10: Reduced Inequality

GOAL 11: Sustainable Cities and Communities

GOAL 12: Responsible Consumption and Production

GOAL 13: Climate Action

GOAL 14: Life Below Water

GOAL 15: Life on Land

GOAL 16: Peace and Justice Strong Institutions

GOAL 17: Partnerships to achieve the Goal

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Sustainable Development Goals

3.1.2. Sustainable Businesses

From the second half of the 19th century, Western societies started to discover that their economic and industrial activities had a significant impact on the environment and the social balance. Several ecological and social crises took place in the world and rose awareness that a more sustainable model was needed.

In 1972, in Stockholm it took place the UN Conference on the environment – the first big world leaders meeting - to discuss the human impact on the environment and how it was related to economic development. One of the main goals of this gathering was to find a common outlook and common principles to inspire and guide the world's population to preserve the "human environment". Once the idea that our planet had limits that needed to be respected grew, together with the idea that progress isn't only about economic growth, integrated solutions started to develop. And year by year the concept of making "sustainable business" started to emerge. But what exactly is it?

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Sustainable business refers to an approach to conducting business that aims to minimize negative impacts on the environment, society, and future generations while promoting long-term economic growth and profitability. It involves integrating environmental, social, and economic considerations into business strategies, operations, and decision-making processes.

The core principles of sustainable business include:

1. Environmental stewardship: Sustainable businesses strive to minimize their ecological footprint by using resources efficiently, reducing waste, and adopting cleaner production methods. They may implement energy-saving measures, promote recycling and waste reduction, and explore renewable energy sources.
2. Social responsibility: Sustainable businesses take into account the interests and well-being of their employees, customers, communities, and other stakeholders. They may provide fair wages, safe working conditions, and opportunities for professional growth. They also engage in philanthropic activities and contribute to social and community development.
3. Economic viability: Sustainable businesses recognize the importance of financial stability and long-term profitability. They aim to create value for their shareholders while considering the potential risks and opportunities associated with sustainability. By integrating sustainability into their business models, they can achieve cost savings, attract socially conscious consumers, and gain a competitive edge.

Sustainable businesses often adopt various strategies and practices, such as:

1. Sustainable supply chain management: this involves working with suppliers that adhere to ethical and environmentally friendly practices. It may include sourcing materials responsibly, reducing transportation emissions, and ensuring fair trade practices.
2. Product and service innovation: sustainable businesses focus on developing and offering environmentally friendly products and services that meet customer needs while minimizing negative impacts. This may involve using recycled materials, reducing packaging waste, or providing energy-efficient solutions.
3. Stakeholder engagement and transparency: sustainable businesses actively involve stakeholders in their decision-making processes and maintain transparent communication regarding their sustainability efforts. This can enhance trust, foster collaboration, and ensure accountability.

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4. Regulatory compliance: sustainable businesses strive to meet or exceed legal requirements related to environmental protection, social responsibility, and ethical business practices. They stay updated on relevant regulations and certifications, ensuring their operations align with recognized standards.

By adopting sustainable practices, businesses contribute to environmental preservation, social well-being, and economic resilience. They also respond to the increasing demand from consumers, investors, and regulators for responsible and sustainable solutions, thereby building a positive brand image and positioning themselves for long-term success in a rapidly changing world.

3.1.3 Green Economy

"Green economy is one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities."(UNEP UN Environment Programme, https://www.unep.org/).

Green economy focuses on the environment and people' s present well-being and sustainable future.
Such an economy is low carbon, efficient and clean in production, but also inclusive in consumption and outcomes, based on sharing, circularity, collaboration, solidarity, resilience, opportunity, and interdependence. It is focused on expanding options and choices for national economies, using targeted and appropriate fiscal and social protection policies, and backed up by strong institutions that are specifically geared to safeguarding social and ecological floors.
As an economic model, it takes into consideration environmental and social externalities and does not focus on GDP growth as the ultimate economic goal. Green economy is associated with a wealth of opportunities, for both people -to improve their living environments and have decent jobs- and for businesses – to increase benefits through more efficient production practices that generate savings, take advantage of the growing market for environmental goods and services, improve their image etc…
The transition to an inclusive green economy entails joint efforts at many levels, including in stimulating sustainable lifestyles, scaling-up sustainable consumption and production models and encouraging green entrepreneurship, through the advancement of eco-innovations, the facilitation of resource efficiency, and the mainstreaming of green consumer behaviour.

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Source: https://www.switchtogreen.eu/inclusive-green-economy/

Inclusive Green Economy follows five key principles, which together can guide economic reform in diverse contexts.

- **Wellbeing**: inclusive green economy is people centred. Its purpose is to create genuine, shared prosperity. It focuses on growing wealth that will support wellbeing. It prioritises investment and access to the sustainable natural systems, infrastructure, knowledge and education needed for all people to prosper. It offers opportunities for green and decent livelihoods, enterprises and jobs.
- **Justice**: inclusive green economy is inclusive and non-discriminatory. It promotes the equitable distribution of opportunity and outcome.
- **Planetary Boundaries**: It is an economy that safeguards, restores and invests in nature.
- **Efficiency and Sufficiency**: It enables economic growth without raising resource consumption. It recognises there must be a significant global shift to limit consumption of natural resources to physically sustainable levels.

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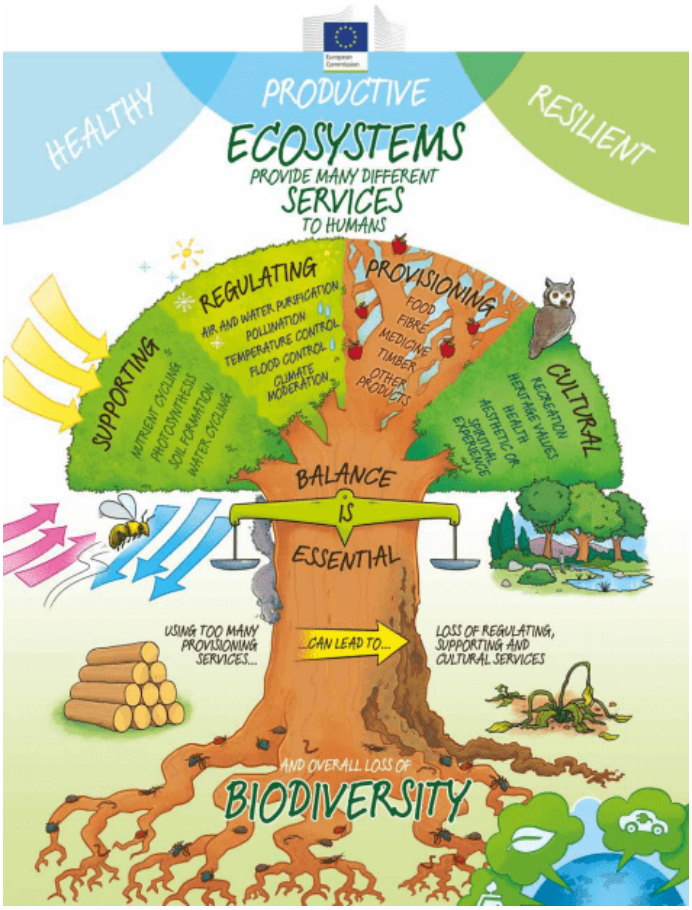
- **Good Governance**: it is based on government actions, transparency and appropriate policies

3.1.4. Natural Capital

Natural capital can be defined as the world's stocks of natural assets which include geology, soil, air, water and all living things (Word Forum on Natural Capital: https://naturalcapitalforum.com/).



Source: Science for Environment Policy "Taking stock: progress in natural capital accounting" (2017)

With financial capital, when we spend too much we run up debt, which if left unchecked can eventually result in bankruptcy. With natural capital, when we draw down too much stock from our natural environment we also run up a debt which needs to be paid back, for example by

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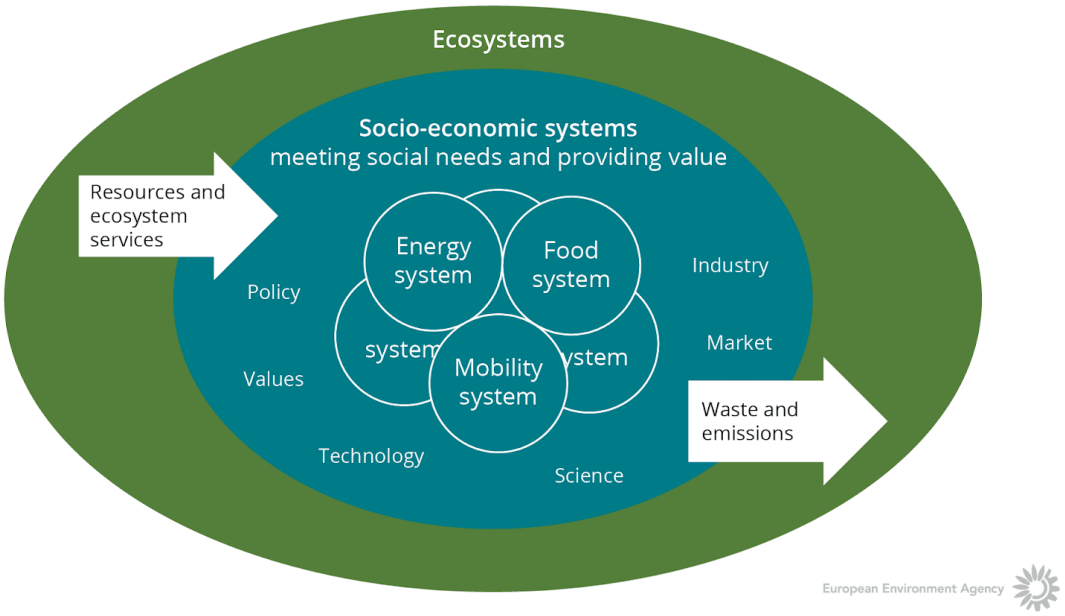
replanting clear-cut forests, or allowing aquifers to replenish themselves after we have abstracted water. If we keep drawing down stocks of natural capital without allowing or encouraging nature to recover, we run the risk of local, regional or even global ecosystem collapse.
Natural capital is the most fundamental of the forms of capital since it provides the basic conditions for human existence, delivering food, clean water and air, and essential resources. It sets the ecological limits for our socio-economic systems, which require continuous flows of material inputs and ecosystem services (picture below). Yet, it is not accounted for in nations' wealth accounting systems.



Picture Conceptual framework for ecosystem assessments from European Environment Agency

It is from this natural capital that humans derive a wide range of services, often called **ecosystem services**, which make human life possible.

The most obvious ecosystem services include the food we eat, the water we drink and the plant materials we use for fuel, building materials and medicines. There are also many less visible ecosystem services such as the climate regulation and natural flood defences provided by forests, the billions of tonnes of carbon stored by peatlands, or the pollination of crops by insects. Even less visible are cultural ecosystem services such as the inspiration we take from wildlife and the natural environment.
Natural capital comprises two major components:

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- **Abiotic natural capital** comprises subsoil assets (e.g. fossil fuels, minerals, metals) and abiotic flows (e.g. wind and solar energy).
- **Biotic natural capital** or ecosystem capital consists of ecosystems, which deliver a wide range of valuable services that are essential for human well-being (flora, fauna, marine and terrestrial ecosystems).

3.2. Green Competences

3.2.1. The Greencomp Framework

Some years ago in the *European Green Deal*, one of the most important initiatives about green policies and strategies undertaken in Europe, the Commission announced the idea to developed the European Sustainability Competence Framework, GreenComp.
The aim was to provide a shared competence framework on sustainability at European level as a common basis for everyone. Having a common understanding can be a catalyst for action and for a shared strategy on learning for environmental sustainability.

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According to GreenComp "***Sustainability*** *means prioritising the needs of all life forms and of the planet by ensuring that human activity does not exceed planetary boundaries"* while *"**sustainability competence** empowers learners to embody sustainability values, and embrace complex systems, in order to take or request action that restores and maintains ecosystem health and enhances justice, generating visions for sustainable futures.*
The GreenComp framework is made of 12 competences divided into four areas.

AREA 1: *Embodying sustainability values.* Competences are:

- ✔ Valuing sustainability
- ✔ Supporting fairness
- ✔ Promoting nature

AREA 2: *Embracing complexity in sustainability.* Competences are:

- ✔ Systems thinking
- ✔ Critical thinking
- ✔ Problem framing

AREA 3: *Envisioning sustainable futures.* Competences are:

- ✔ Futures literacy
- ✔ Adaptability
- ✔ Exploratory thinking

AREA 4: *Acting for sustainability*. Competences are:

- ✔ Political agency
- ✔ Collective action
- ✔ Individual initiative

For a quick reading of the document: how is it structured?

- The chapter 1 is basically a generic introduction
- The chapter 2 focuses on the terminology and concepts that form the basis of GreenComp
- The chapter 3 introduces the four competence areas, the 12 competences and their related descriptors
- The chapter 4 provides descriptions of the competence areas and the sustainability competences, followed by how they are applied in practice
- The chapter 5 describes options for further development.

How to visualise the GreenComp framework

The framework is built on bee pollination as a metaphor where bees, flowers,

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nectar and beehives represent the four areas of the framework. The metaphor highlights the interplay and dynamics between the four areas and 12 competences.

- ✔ **Bees** represent the competences related to the area 'acting for sustainability'.
- ✔ **Flowers** represent the competences related to the area 'envisioning sustainable futures'.
- ✔ **Beehive** represents the competences related to the area 'embodying sustainability values'. The beehive protects and sustains the bees.
- ✔ **Pollen** and **nectar** represent the competences related to the area 'embracing complexity in sustainability'.

Visual representation from EntreComp

For a full understanding of the Framework have a look here.

3.2.2. How To Link Greencomp And Entrecomp: Developing Entrepreneurial Competences Within The Greencomp Frame

A good way to develop entrepreneurial competences is to have a comprehensive understanding of the two European frameworks that the European Commission has introduced to better define respectively the green competences and the entrepreneurship competences: GreenComp and EntreComp.

About GreenComp we have already presented him in the previous paragraph. With regard to EntreComp, we can say that it is a reference framework designed to help understanding what is

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meant by entrepreneurship as a key competence for lifelong learning. It is intended to support and inspire actions to improve the entrepreneurial capacity of European citizens and organisations.

A short video about EntreComp: https://www.youtube.com/watch?v=ijpVICWGIdc

Now let's see how the two frameworks are structured in terms of areas, competences and descriptors/indicators.

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GREENCOMP

AREA	COMPETENCE	DESCRIPTOR
Embodying sustainability values	Valuing sustainability	To reflect on personal values; identify and explain how values vary among people and over time, while critically evaluating how they align with sustainability values.
	Supporting fairness	To support equity and justice for current and future generations and learn from previous generations for sustainability.
	Promoting nature	To acknowledge that humans are part of nature; and to respect the needs and rights of other species and of nature itself in order to restore and regenerate healthy and resilient ecosystems.
Embracing complexity in sustainability	Systems thinking	To approach a sustainability problem from all sides; to consider time, space and context in order to understand how elements interact within and between systems.
	Critical thinking	To assess information and arguments, identify assumptions, challenge the status quo, and reflect on how personal, social and cultural backgrounds influence thinking and conclusions.
	Problem framing	To formulate current or potential challenges as a sustainability problem in terms of difficulty, people involved, time and geographical scope, in order to identify suitable approaches to anticipating and preventing problems, and to mitigating and adapting to already existing problems.
Envisioning sustainable futures	Futures literacy	To envision alternative sustainable futures by imagining and developing alternative scenarios and identifying the steps needed to achieve a preferred sustainable future.
	Adaptability	To manage transitions and challenges in complex sustainability situations and make decisions related to the future in the face of uncertainty, ambiguity and risk.

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	Exploratory thinking	To adopt a relational way of thinking by exploring and linking different disciplines, using creativity and experimentation with novel ideas or methods.
Acting for sustainability	Political agency	To navigate the political system, identify political responsibility and accountability for unsustainable behaviour, and demand effective policies for sustainability.
	Collective action	To act for change in collaboration with others.
	Individual initiative	To identify own potential for sustainability and to actively contribute to improving prospects for the community and the planet.

ENTRECOMP

AREA	COMPETENCE	INDICATOR
ideas and opportunities	spotting opportunities	use your imagination and abilities to identify opportunities for creating value
	creativity	develop creative and purposeful ideas
	vision	work towards your vision of the future
	valuing ideas	make the most of ideas and opportunities
	ethical and sustainable thinking	assess the consequences and impact of ideas, opportunities and action
resources	self-awareness and self-efficacy	believe in yourself and keep developing
	motivation and perseverance	stay focused and don't give up
	mobilising resources	gather and manage the resources you need

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	financial and economic literacy	develop financial and economic know-how
	mobilising others	inspire, enthuse and get others on board
	taking the initiative	go for it
	planning and management	prioritise, organise and follow up
	coping with uncertainty ambiguity and risk	make decisions dealing with uncertainty, ambiguity and risk
into action	working with others	team up, collaborate and network
	learning thorough experience	learn by doing

3.3. Green Business

3.3.1 The Necessity Of Innovation

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OECD definition of innovation

According to official definition of OECD Oslo Manual, “An innovation is a new or improved product or process (or combination thereof) that differs significantly from the unit’s previous products or processes and that has been made available to potential users (product) or brought into use by the unit (process)”.

Innovation is more than a new idea or an invention. An innovation requires implementation, either by being put into active use or by being made available for use by other parties, firms, individuals or organisations.

The economic and social impacts of inventions and ideas depend on the diffusion and uptake of related innovations. Furthermore, innovation is a dynamic and pervasive activity that occurs in all sectors of an economy; it is not the sole prerogative of the Business enterprise sector. Other types of organisations, as well as individuals, frequently make changes to products or processes and produce, collect, and distribute new knowledge of relevance to innovation.

Innovation occurs in all of the four broad sectors of an economy, as defined by the United Nations’ (UN) System of National Accounts (SNA):

- ✔ Business enterprise;
- ✔ General government;
- ✔ Households;
- ✔ Nonprofit institutions serving households;

The concept of innovation and its main characteristics

The conceptual foundations for innovation measurement are primarily derived from the management and economics disciplines (Smith, 2006). Management perspectives on innovation cover how innovation can change a firm’s position in the market and how to generate ideas for innovation. Economic perspectives examine why organisations innovate, the forces that drive innovation, the factors that hinder it, and the macroeconomic effects of innovation on an industry, market or economy.

Innovation is not a linear, sequential process, but involves many interactions and feedbacks in knowledge creation and use. In addition, innovation is based on a learning process that draws on multiple inputs and requires ongoing problem-solving. The systems perspective of innovation calls for multidisciplinary and interdisciplinary

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approaches to examine the interdependencies among actors, the uncertainty of outcomes, as well as the path-dependent and evolutionary features of systems that are complex and non-linear in their responses to policy intervention.

KNOWLEDGE

Innovations derive from knowledge-based activities that involve the practical application of existing or newly developed information and knowledge. Information consists of organised data and can be reproduced and transferred across organisations at low cost. Knowledge refers to an understanding of information and the ability to use information for different purposes. Knowledge is obtained through cognitive effort and consequently new knowledge is difficult to transfer because it requires learning on the part of the recipient. Both information and knowledge can be sourced or created within or outside a relevant organisation.

NOVELTY WITH RESPECT TO POTENTIAL USES

Knowledge can be used to develop new ideas, models, methods or prototypes that can form the basis of innovations. These can be sourced externally or developed within an organisation. The novelty of an innovation is related to its potential uses, as determined by the characteristics of a product or process compared to alternatives, and by the previous experiences of its provider and intended users.

IMPLEMENTATION AND ACTUAL USE

In order for a new idea, model, method or prototype to be considered an innovation, it needs to be implemented. Implementation requires organisations to make systematic efforts to ensure that the innovation is accessible to potential users, either for the organisation's own processes and procedures, or to external users for its products. The requirement for implementation is a defining characteristic of innovation that distinguishes it from inventions, prototypes, new ideas, etc.

VALUE CREATION

Viewed as an economic activity, innovation requires resources that could be used for other purposes. The existence of opportunity costs implies the likely intention to pursue some form of value creation (or value preservation) by the actors responsible for an innovation activity. Value is therefore an implicit goal of innovation, but cannot be guaranteed on an ex-ante basis because innovation outcomes are uncertain and heterogeneous.

User needs and relevance of statistical evidence on innovation

User needs drive the construction of a system for measuring and reporting innovation and the subsequent production of innovation data, statistics, indicators, and in-depth analyses of innovation activities. There is widespread interest in understanding what drives firms, communities and individuals to innovate and the factors that influence their innovation activities. The relevance of innovation data for understanding innovation processes and drivers

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can vary across countries, industries and institutional settings. The usefulness of innovation data also depends on the ability to connect them with other types of data.

There are three main current or potential users of innovation data:

- Academics;
- Managers;
- policy makers or policy analysts.

The data needs of all three types of users are similar, with an interest in:

- ✔ obtaining comparable data across industries, regions and time;
- ✔ keeping up with changes in the nature of innovation, such as open innovation or the use of design thinking principles;
- ✔ enabling analyses of innovation impacts on innovative organisations, other parties, and regional or national economies;
- ✔ providing data on the factors that enable or hinder innovation;

linking innovation data to other relevant data, such as administrative registers or data on individual users of innovations

Business enterprise sector

Here we will focus on **Business enterprise sector** concept of innovation.

The term “innovation” can be used in different contexts to refer to either a process or an outcome. To avoid confusion, Oslo manual uses the term “innovation activities” to refer to the process while the term “innovation” is limited to outcomes.

Definition of INNOVATION ACTIVITIES (process): Innovation activities include all developmental, financial and commercial activities undertaken by a firm that are intended to result in an innovation for the firm.

Definition of INNOVATION: an innovation is a new or improved *product* or *business process* (or combination thereof) that differs significantly from the firm's previous products or business processes and that has been introduced on the market or brought into use by the firm.

- ✔ A product is a good or service (or combination thereof). A product is introduced when it is made available for use by its intended users.
- ✔ Business processes include all core activities by the firm to produce products and all ancillary or supporting activities. business process is introduced when it is brought into actual use in the firm’s operations.

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The act of introduction is defined as *implementation* and is the point in time when a significantly different product or business process is first made available for use. Firms will often make further adjustments to an innovation after its implementation.

The minimum requirement for an innovation is that the product or business process must have one or more *characteristics* that are significantly different from those contained in the products or business processes previously offered by or used by the firm. *These characteristics must be relevant to the firm or to external users*. For example, the firm may expect the new or improved characteristics of a product (or business process) to increase utility for users or to enhance its own competitive position in the market.

Innovation types by object: Product and Business Process innovations

There are two major types of innovation by object:

- ✔ innovations that change the firm's products (product innovations)
- ✔ innovations that change the firm's business processes (business process innovations).

PRODUCT INNOVATION

A product innovation is a new or improved good or service that differs significantly from the firm's previous goods or services and that has been introduced on the market.

The term "product" is defined in the System of National Accounts and encompasses both goods and services. Products are the economic output of production activities. They can be exchanged and used as inputs in the production of other goods and services, as final consumption by households or governments, or for investment, as in the case of financial products.

Product innovations must provide significant improvements to one or more characteristics or performance specifications. This includes the addition of new functions, or improvements to existing functions or user utility. Relevant functional characteristics include quality, technical specifications, reliability, durability, economic efficiency during use, affordability, convenience, usability, and user friendliness.

Product innovations can involve two generic types of products: goods and services.

- ✔ GOODS include tangible objects and some knowledge-capturing products over which ownership rights can be established and whose ownership can be transferred through market transactions.
- ✔ SERVICES are intangible activities that are produced and consumed simultaneously and that change the conditions (e.g. physical, psychological, etc.) of users. The engagement of users through their time, availability, attention, transmission of information, or effort is often a necessary condition that leads to the co-production of services by users and the firm. The attributes or experience of a service can therefore depend on the input of users.

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The dividing line between goods and services can sometimes be difficult to establish and some products can have characteristics of both. A company can sell goods to its customers or rent their use as a service, as is often the case for durable consumer goods and for assets for business production.

BUSINESS PROCESS INNOVATION
A business process innovation is a new or improved business process for one or more business functions that differs significantly from the firm's previous business processes and that has been brought into use in the firm.

The term business process includes the core business function of producing goods and services and supporting functions such as distribution and logistics, marketing, sales and after-sales services; information and communication technology (ICT) services to the firm, administrative and management functions, engineering and related technical services to the firm, and product and business process development. Business processes can be delivered in-house or procured from external sources.
Business process innovations are divided into six broad types:

- ✔ Production of goods or services
- ✔ Distribution and logistics
- ✔ Marketing and sales
- ✔ Information and communication system
- ✔ Administration and management
- ✔ Product and business process development

3.3.2 From Linear To Circular Economy

What is Circular Economy? "The circular economy is a model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible. In this way, the life cycle of products is extended." (European Parliament News).

The world's population is growing and with it the demand for raw materials. However, the supply of crucial raw materials is limited. The European Union produces more than 2.5 billion tonnes of waste every year. It is currently updating its legislation on waste management to promote a shift to a more sustainable model known as the circular economy. In practice, it implies reducing waste to a minimum. When a product reaches the end of its life, its materials are kept within the economy wherever possible. These can be productively used again and again, thereby creating further value. This is a departure from the traditional, linear economic model, which is based on a take-make-consume-throw away pattern, to a circular model.

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Source: European Parliament News

The transition from a linear economy to a circular economy is a shift in the way we produce, consume, and manage resources. In a linear economy, resources are extracted, transformed into products, used, and then discarded as waste. In contrast, a circular economy aims to keep resources in use for as long as possible, extracting maximum value from them and minimizing waste.

Here are some key principles and strategies involved in transitioning from a linear to a circular economy:

- Design for durability and recyclability: Products should be designed to last longer, be easily repairable, and have components that can be recycled or reused at the end of their life cycle. This involves considering the entire life cycle of a product from the design stage.

- Resource efficiency and optimization: The efficient use of resources is crucial in a circular economy. This involves reducing waste and optimizing resource consumption throughout the production and consumption processes. It includes strategies such as lean manufacturing, energy efficiency, and minimizing material inputs.

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- Reuse and repurposing: Emphasizing reuse and repurposing of products and materials helps extend their lifespan and reduce waste. This can involve practices such as refurbishing and reselling products, sharing or renting items, or repurposing materials for alternative uses.

- Recycling and recovery: Recycling plays a significant role in a circular economy. Materials that cannot be reused are recycled to create new products or raw materials. Efficient waste management systems and recycling infrastructure are necessary to enable the effective recovery of valuable materials.

- Biomimicry and renewable resources: Drawing inspiration from nature, biomimicry aims to design products and processes that mimic natural systems. Using renewable resources and adopting sustainable practices help reduce reliance on finite resources and minimize environmental impact.

- Collaborative networks and business models: Collaboration among businesses, governments, and stakeholders is crucial for transitioning to a circular economy. This includes forming networks, sharing knowledge, and implementing innovative business models such as product-as-a-service, where products are leased or rented instead of being sold.

- Consumer awareness and behavior change: Shifting consumer behavior is essential for a circular economy. Educating consumers about the importance of sustainable consumption, promoting conscious buying decisions, and fostering a culture of sharing and reuse are key aspects of this transition.

- Policy and regulation: Governments play a critical role in driving the transition to a circular economy. Developing supportive policies and regulations, providing incentives for sustainable practices, and establishing recycling and waste management targets are important steps in facilitating the transition.

Moving towards a more circular economy could deliver benefits such as:

- reducing pressure on the environment,
- improving the security of the supply of raw materials,
- increasing competitiveness,
- stimulating innovation,
- boosting economic growth,
- creating jobs

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Consumers will also be provided with more durable and innovative products that will increase the quality of life and save them money in the long term. Additional information for a better understanding of the shift from linear to circular is available here.

3.3.3 Designing And Implementing New Business Models Based On The Concept Of Circularity

Businesses have been turning more and more towards sustainability in recent years, as the public becomes more environmentally conscious.

These are some of the things to consider if a business is green:

- The mission and principles of sustainability and environmental concerns are integral part of all stages of the business, from planning to delivery.
- Development of environmentally friendly products or services that can benefit the end user and the nature. Green footprint can be calculated and it gives insight into the impact of the business on the environment with travels, consumption, and waste.
- It is greener than other products or services. A reuse/reduce/recycle approach is simple and important – If learned how to do it correctly the business can save costs, be greener and avoid waste.
- It provides a sustainable long-term alternative and cares about the product lifecycle (how long the product lasts, what resources are used, what waste is created with it …)

Green business covers all (or at least most) of the areas below:

- Environmental respect – zero or low pollution, use of local resources, not damaging the environment
- Energy efficiency – good use of heating systems, good building isolation in buildings, closed windows ...
- Sustainable transportation – electric vehicles, use of bicycles or walking, zero or low pollution transportation etc.
- Green energy harvesting – wind, solar, wave, geothermal energy …
- Wise use of resources – avoiding the use of paper, working as much online as possible, using local products and human resources, allocate the adequate number of resources to obtain the final results etc.
- Human concern – causing good impact in the local community, care about their workers,

  involves the community, social responsibility.

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To be totally green can be difficult but achievable with commitment.

First step

To get started with designing a new, repurposed, recycled, adapted circular product, service or process a good tool is the **design thinking process**. The 5-stage model stage model was developed by the Hasso-Plattner Institute of Design at Stanford University and has been used by many organisations.

See https://web.stanford.edu/~mshanks/MichaelShanks/files/509554.pdf to get an overview and https://dschool.stanford.edu/resources/getting-started-with-design-thinking to find resources and a facilitator guide to implement the process.

The process consists of five stages. Other models have added stages, e.g. to inspire in order to identify a challenge and activate/motivate teams and a final stage to implement.

The emphasize stage develops a deep understanding of the challenge and of the needs of the target groups and audiences of our product.

In the **define stage** we clearly describe the problem we want to solve and the needs we want to fulfil.

The **ideate stage** is the most creative phase where we brainstorm for all kinds of crazy, creative and sustainable ideas, gather and structure these ideas.

Then we design the **prototype**, creating a rough draft or model of our ideas and then **test** this with peers, other students, teachers and the representatives of the target groups we have identified.

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To support digitalisation process platforms like Miro, Mural, Padlet, Mentimeter, Canva and other emerging applications can be used for ideation processes. These platforms offer a variety of templates to facilitate design thinking processes. Moreover, these digital platforms can be used to foster cooperation and co-design of products, services and solutions.

Instead of writing a linear business plan with many words a more intelligent way to design a business plan is the Business Canvas model, developed by Alex Osterwalder (see https://www.alexosterwalder.com) and adapted in many ways. The Canvas model is free to download from many sites or can be used online via strategyzer.com.

The Business Canvas is a powerful tool since it shows how thinks are connected and, thus, develops systemic thinking. It is best to work in small teams and start filling the gaps on the Canvas. At the beginning it may be not so easy but in team discussions students quickly find out the connections of the different prompts of the Canvas.

Second step

Instead of writing a linear business plan with many words a more intelligent way to design a business plan is the Business Canvas model, developed by Alex Osterwalder (see https://www.alexosterwalder.com) and adapted in many ways. The Canvas model is free to download from many sites or can be used online via strategyzer.com. The Business Canvas is a powerful tool since it shows how thinks are connected and, thus, develops systemic thinking.

In order to adapt the Canvas to circular economy business development you can use Circulab. They provide good presentations and many tools to support the design of sustainable and circular businesses.

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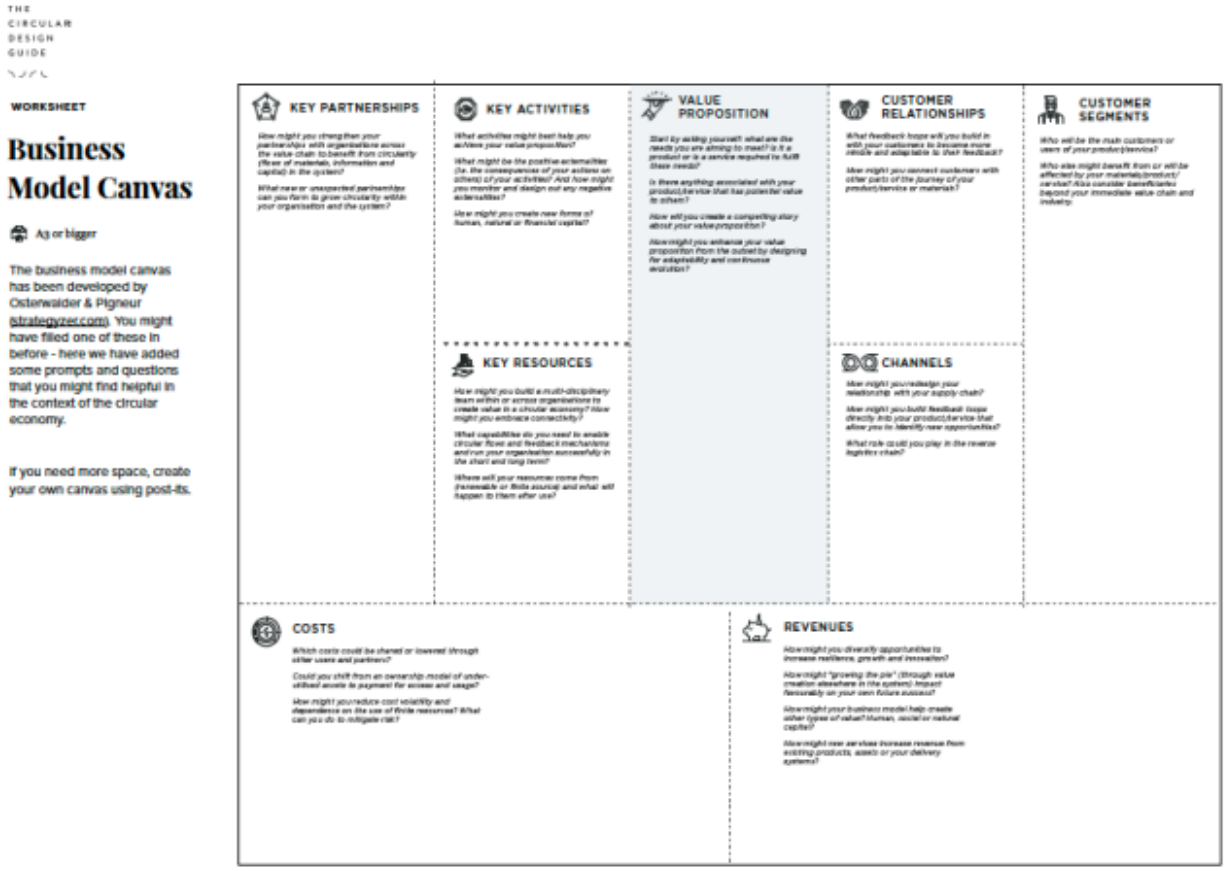

Source: Circulab: https://circulab.academy/circular-economy-tools/circular-canvas-business-models/

Then it's time to fill in the Canvas. You can start everywhere but it is useful to start with the Value Proposition for the customers and for the earth. A good ideation process makes it easy to make this value proposition, since you already looked at the needs of your target audience. Think always circular and green and think how your values can be adapted to meet the needs. Also consider how your value proposition will meet UN's sustainability goals. You could also provide information on the eco- and carbon footprint you make with your offers or the reduction of the impact on the earth's resources you make.

Following the Value Proposition it will be easy to define the Customer Segments, the Channels Segments, how to reach your customers and then move on to Key Activities and Key Resources (staff, skills, financing, property, etc.) you need to produce your product or deliver services. Stakeholders, policy makers, friends may be important for your new enterprise: Identify them under Key Partnerships. Then a crucial part of the exercise is to identify all the income you expect, the Revenues and the Cost.

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Always reflect the aspects of circularity and sustainability, which means that your enterprise must be financially and socially viable, inclusive and good for the earth.

4. Videos

Additional video materials for the modul

1. Sustainable development: Why we must grow green economies: From OECD: https://www.youtube.com/watch?v=m9AS6KT7a5Y

2. Introduction to Natural Capital Accounting. From the project INCASE “Irish Natural Capital Accounting for Sustainable Environments” funded by the Irish Environmental Protection Agency: https://www.youtube.com/watch?v=ykzFmT4rhmM

3. Ecosystem services: From EU Environment: https://www.youtube.com/watch?v=wMIUglBligI

4. Circular economy: From: European Environment Agency: https://www.youtube.com/watch?v=_9mHi93n2AI

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5. Conclusion

The so-called “green entrepreneurship” represents one of the most innovative aspects in the main entrepreneurship-word. The necessity to innovate and to develop new entrepreneurial ideas is getting more and more linked to the environmental necessity to respect our planet and to come up with alternative, sustainable ways of production and consumptions. As a consequence the need to develop “green competences” within the entrepreneurial world represents an asset for the practical design and implementation of new businesses.

Developing green competences requires a holistic approach that combines several factors as environmental awareness, education, practical experience, innovation, collaboration, and supportive policies. This training module doesn’t have room for an exhaustive and integrated explanation of all these factors. But it has the aim to drive the learners in a first, introductive pathway to this approach, by showing the main theoretical background elements and the main practical steps. From the educational perspective, the training module offers a synthetic overview of the principal terms linked to the green topics and then leads learners to get knowledge on how to integrate green competences in the entrepreneurial pathways.

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- ✔ The European Green Deal – COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE EUROPEAN COUNCIL, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS – 2019
- ✔ A new Circular Economy Action Plan For a cleaner and more competitive Europe - COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS
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- ✔ https://sdgs.un.org/goals
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- ✔ https://www.europarl.europa.eu/thinktank/infographics/circulareconomy/public/index.html

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