# Economic Sustainability

Scouts4GreenApp

Unit 2.1

Developed by IHF





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- EU Circular Economy Action Plan
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# Learning outcomes

#### **ACTIVITY I: SUSTAINABLE BUSINESS**

- Understand the concept of economic sustainability
- Recognize the principles and practices of sustainable business

#### **ACTIVITY 2: DOUGHNUT ECONOMICS**

- Recognise the limitations of traditional economic growth models
- Know the dimensions of the Doughnut model and their implications for decision-making
- Apply the principles of Doughnut Economics to real scenarios within business management

#### **ACTIVITY 3: CIRCULAR ECONOMY**

- Understand the key principles of CE
- Recognise Circular Economy practices
- Evaluate the potential benefits, limitations, and trade-offs associated with Circular Economy
- Develop problem-solving skills and critical thinking





# GreenComp competences and SDGs

#### **ACTIVITY I: SUSTAINABLE BUSINESS**

• Valuing sustainability

#### **ACTIVITY 3: CIRCULAR ECONOMY**

- Systems thinking
- Critical thinking
- Problem framing



#### **ACTIVITY 2: DOUGHNUT ECONOMICS**

- Promoting nature
- Futures literacy
- Individual initiative

#### **SDGs**

#I No poverty

- #8 Decent Work and Economic Growth
- #9 Industry, Innovation and infrastructure
- #7 Affordable and Clean Energy



# Activity I Sustainable Business







### Quiz time: pre-assess your knowledge

Company A produces a product, packages it in plastic, transports it using polluting vehicles (e.g., diesel-powered), and part of its production ends up in open landfills.

Company A, with the profits from its production activities, decides to finance the creation of a park in the nearby city. Company B produces the same product as Company A but creating packaging that can be disposed of in organic waste or is compostable, albeit more expensive.

This decision would lead Company B to have lower profits and, consequently, not be able to invest in social initiatives.

Which company is adopting a sustainable model? (correct answer in the next slide)





### Quiz time: pre-assess your knowledge

### CORRECT ANSWER Company B

Explanation: Company B addresses **the three pillars of sustainability**. To discover more go to the next slide.





### Defining Sustainable Business

An ideal type of truly sustainable business should embody all three pillars of sustainability:

### I. Ecological

It should adopt an environmentally conscious approach, ensuring that its economic activities have the least possible environmental impact.

### 2. Social

It should be socially responsible, meaning that its economic activities must be as respectful as possible to workers and their rights.

### 3. Economic

It should prioritize its own financial sustainability.

In this model, social and environmental costs are calculated and integrated into the directly incurred production costs, traditionally considered.





### Understanding Economic Sustainability

When an economic system is sustainable, it is recognised by the joint assessment of three forms of capital: **FINANCIAL**, **SOCIAL-HUMAN**, **AND NATURAL** with the aim of not diminishing their respective stocks, so that future generations can also achieve conditions of wealth and well-being.

This implies that economic sustainability does not overlook the impact it has on the environment and society, and this is achievable through the rational and efficient use of resources, reducing the use of non-renewable ones.

Therefore, implementing the principle of sustainability in the economy would mean establishing an economic system that, alongside profit maximization, ensures the persistence of employment and capital over time, focusing on ethics and ecology.





### Reflecting on the quiz

Company B embodies all three pillars of sustainability as follows:

**ECOLOGICAL PILLAR** - Use of compostable packaging or that can be disposed of in organic waste. Biodegradable packaging aligns with the principles of *circular economy* (resources are kept in use for as long as possible and then regenerated) contrasting with Company A's *linear model*.

**ECONOMIC PILLAR** - Invest in sustainable packaging may initially lead to lower profits, however can enhance brand reputation, attract environmentally conscious consumers, and mitigate potential regulatory risks associated with traditional plastic packaging. Over time, these factors can contribute to increased market competitiveness and financial stability, outweighing the short-term profit considerations.

**SOCIAL PILLAR** - Although Company A may finance the creation of a park, Company B's practices benefit current and future generations by preserving the planet's health and resilience. Company B has <u>calculated</u> and integrated social and environmental costs into the directly incurred production costs, which is the requirement of every sustainable business.



### Activity 2 Doughnut Economics







### Creating a doughnut-inspired business model

Imagine to be the CEO of a company (like the company of your mobility or the company you would like to run or work for). You are responsible for ensuring that your business operates in a way that **meets the needs of the employees** and customers while **respecting environmental boundaries**. Once achieved this balance, your business model will be able to promote and will respond to a new economic model: the Doughnut Economics.

- Which actions could you apply to guarantee the wealth of your employees and/or customers?
- Which measures could you apply to reduce the environmental impact of your activities?

Write down all the possible actions and practices that come in your mind; then, conserve the list since you are going to use it again at the end of the activity. Go through the next slides to discover the Doughnut Economics and learn how to innovate business models in a fully sustainable way.





### Understanding Doughnut Economics



·\*<sup>\*</sup>\*∗ <sup>\*</sup>∗ <sub>•</sub> <sup>\*</sup> Co-funded by <sup>the</sup> European Union



### Understanding Doughnut Economics

"A healthy economy should be designed to drive not to grow". These are the words of Kate Raworth, the economist who has developed an economic model called Doughnut Economics. The underlying idea of this model, directly inspired by the Sustainable Development Goals, is to place humanity within an economy that develops in a space respectful of both social prosperity and limits of the ecosystem in which it exists.

### Why a doughnut?

The metaphor used by the economist aims to project into people's imagination a new shape and trajectory for the economy, different from that of linear and infinite growth. The doughnut's shape is composed of two concentric circles (see next slide). Combining the two circles — the ecological one defined by planetary boundaries and the social one derived from sustainable development goals — the resulting graphical representation is indeed a kind of doughnut that combines two concentric radar charts representing the two boundaries, social and environmental, which together encircle human well-being.



#### SOCIAL FOUNDATION

delimits the inner boundary of the doughnut and specifies the vital needs that everyone should be able to satisfy.

Its 12 dimensions derived from the social priorities outlined in the Sustainable Development Goals.

Consequently, below this boundary, in the hole of the doughnut, we find poverty and deprivation, situations with deficiencies in terms of wellbeing.





#### ECOLOGICAL CEILING

represents the limit of the doughnut, beyond which pressure on the ecosystem becomes dangerous, leading to ecological degradation.

The 9 dimensions are defined by planetary boundaries.

Between these two boundaries, one must find the ecologically safe and socially fair space, also known as **SAFE OPERATING SPACE (SOS)**, within which humanity must find new balances to thrive





### Understanding Doughnut Economics



This picture captures the state of humanity and our planet. The red wedges represent deficits either in the social foundation or in surpassing the 9 environmental thresholds.

#### Each dimension is measured with 1 or 2 indicators.

Consult the slides at this link for the list of indicators https://doughnuteconomics.org/tools/dimensions-of-the-doughnut

Millions of people still fall short on all 12 of the social dimensions. The 21<sup>st</sup> century goal is to eliminate all of the red and get into the Safe Operating Space, finding a dynamic balance between the inner and outer circles.





### Regenerating and distributing

To achieve the 21<sup>st</sup> century goal, economies should be designed to **SELF-REGENERATE** so that resources are always available, and the by-products of one process feed into the next.

Additionally, the economy should be thought of as **DISTRIBUTIVE**, fully leveraging the opportunities and potential contained in existing technologies to distribute wealth and knowledge.







To act as a scout for economic sustainability remember that:

A regenerative and distributive business focuses on the benefits it can generate

A business pushing humanity far out of the balance focuses on the value that can be extracted from the company

# How many benefits can we generate?

How much value can we extract from the enterprise?





### To act as a scout for economic sustainability remember that:

A regenerative and distributive business focuses on the benefits it can generate

A business pushing humanity far out of the balance focuses on the value that can be extracted from the company

To be part of a regenerative and distributive future, companies need to pursue **TRANSFORMATIVE IDEAS** to be unlocked through 4 MAIN FACTORS, as suggested by the Doughnut Economics Action Lab



DEAL's guide to redesigning businesses through Doughnut Economics (2024)





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To be part of a regenerative and distributive future, companies need to pursue TRANSFORMATIVE IDEAS that can be unlocked through 4 main factors, as suggested by the Doughnut Economics Action Lab

Transformative ideas should address **FIVE LAYERS** of design that profoundly shape the impact of a business and its role in the world.



DEAL's guide to redesigning businesses through Doughnut Economics (2024)





PURPOSE	Purpose focused on benefits for people.
NETWORKS	
	Long-term, committed and impact-focused relationships; joining progressive alliances.
GOVERNANCE	Multi-stakeholder boards, including employee representation, and giving a voice to nature; full transparency; rewarding management for social and ecological impacts.
OWNERSHIP	Ownership by employees, cooperatives, communities, multi-stakeholders and impact investors.
FINANCE	Flexible margins; dividend caps; funds for transformative ideas; profit distribution to employees and charities, revenue sharing with communities, and pricing based on impact.





### Adjusting the doughnut-inspired business model

Take the list that you prepared at the beginning of the activity. Now that you know the definition of **SAFE OPERATING SPACE** and you are able to identify the **FIVE LAYERS** affecting the impact of a business, try to adjust or expand your initial list.

- Do the actions that you mentioned help humanity to move towards living in the Doughnut?
- Are those actions positively impacting all the dimensions of the Doughnut Economics?
- Do you have further ideas?



# Activity 3 Circular Economy







# Defining Circular Economy

A sustainable economic model is undoubtedly that of the circular economy, designed to self-regenerate, since all stages of a product's life cycle represent an opportunity to decrease the input of materials and energy, curb the production of waste materials, limit the impact of potential negative environmental and social externalities, and create new economic, social, and territorial value.

### **Goals of Circular Economy**

• Reintegration into the biosphere of **BIOLOGICAL MATERIALS** (materials that can safely re-enter the natural world)

• Revaluation, through direct reuse/industrial reutilization, of the **TECHNICAL MATERIALS** (materials like plastic, chemical products, metal etc. that cannot re-enter the environment)

• Reduction of the use of both biological and technical materials





# Understanding the key principles

The Ellen MacArthur Foundation, that has contributed to the dissemination and application of the concept of circularity in the economic system, has identified its 3 cardinal principles:

#### I. Eliminate waste and pollution

Design out negative impacts that cause damage to human health and environment

### **2. Circulate products and materials**

Keep materials in use, as a product, components or raw materials

#### 3. Regenerate nature

Avoid the use of non-renewable resources and preserve/enhance renewable ones





# Applying circular actions

MAINTAIN/PROLONG (AND SHARE) - Keeping products/materials in use by prolonging their lifespan for as long as possible.

**REUSE/REDISTRIBUTE** - Reuse products/materials multiple times and redistribute them to new users in their original form or with little change.

**REFURBISH** - Repair a product without disassembly and the replacement of components.

**REMANUFACTURE** - Disassemble a product to the component level and rebuilt it (replacing components where necessary).

**RECYCLE** - Reduce a product all the way back to its basic material level; materials are remade into new products (lower value process, compared to reuse/remanufacturing, since it results in loss of embedded labour and energy, high costs, material lost).

**CASCADES** - Put used materials and components into different uses and extract, over time, stored energy and material order, until the material ultimately needs to be returned to the natural environment as nutrients.







# Applying circular actions

To delve into Circular Economy, listen also to the Ellen MacArthur Foundation's podcasts



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# Best practice



Fashion business is among the most polluting industries in the world with the denim production representing the highest polluting processes in the textile industry. The Italian company PUREDENIM has successfully reduced the amount of chemicals and water in the jeans manufacturing process by re-designing the production system, inspired by the circular economy's principles, and combining technology and new materials in order to minimise waste.

- Dyes used in blue jeans are traditionally based on reduction through hydrosulphites, which is extremely polluting and hazardous to health. The SMART INDIGO technology adopted by the company uses only indigo pigment, caustic soda, water and electricity. As an electrochemical process, it does not use hydrosulphites.
- PureDenim exclusively purchases certified organic yarns and regenerated cotton from both post and pre-consumer waste. Regenerated cotton is sourced from textile waste, so its production does not require water.





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### Best practice

### Does PUREDENIM align to the Circular Economy's principles?

#### **PRINCIPLE I: ELIMINATE WASTE AND POLLUTION**

- PureDenim has significantly reduced the amount of chemicals and water used in the denim manufacturing process, minimizing pollution and reducing waste of water
- By producing liquid indigo in-house through the Smart Indigo process, the company eliminates the need for traditional, polluting and dangerous dyes based on hydrosulphites
- On-site production of the dye reduces CO2 emissions
- The NaturalReco technology, made from industrial food processing waste, eliminates the use of polyvinyl alcohol and reduces microplastics released into the water

#### **PRINCIPLE 2: CIRCULATE PRODUCTS AND MATERIALS**

- PureDenim exclusively purchases certified organic yarns and regenerated cotton from both post and pre-consumer waste, thereby keeping materials in use and reducing the demand for virgin resources.
- NaturalReco is a film-forming product made entirely from industrial food processing waste

#### **PRINCIPLE 3: REGENERATE NATURE**

• By using regenerated cotton sourced from textile waste, PureDenim reduces reliance on non-renewable resources and contributes to the preservation of natural resources





# Problem-solving exercise

The Smart Indigo technology allows for producing a wide range of denim shades, including the darkest ones, with no need of using the highly polluting hydrosulphites. However, there is a limit: the Smart Indigo technology only works with the blue colour; hence, the company has decided to produce only blue jeans. As a result of this ecological choice, the company lost its customer base preferring other colours than blue. This situation led to a loss of revenue, potentially impacting the company's overall profitability.

Which are the measures that the company could adopt to face the issue and reduce the negative impact on profitability?

See next slide for possible solutions......





# Problem-solving exercise

### **POSSIBLE SOLUTIONS**

- Identify and target customer segments that have a preference for blue denim or are more receptive to the company's sustainability efforts. Develop tailor marketing strategies and messages to appeal to these segments, emphasizing the environmental benefits.
- Position the company as a premium brand known for its sustainable practices and high-quality blue denim products.
- Focus on product differentiation and innovation within the blue denim product range to cater to diverse customer preferences. Introduce unique features, designs, and finishes that add value to the blue jeans and make them stand out in the market.
- Invest in enhancing the overall customer experience to strengthen customer loyalty and retention.
- Forge strategic partnerships and collaborations with other brands, designers, or retailers to expand the reach and appeal of the blue denim products. Collaborative efforts can create opportunities for cross-promotion, co-branded products, and exclusive collections, attracting new customers and increasing sales.
- Keep on educate customers about the environmental benefits of choosing blue denim produced through the Smart Indigo technology and the company's commitment to sustainability.
- Continuously evaluate and optimize operational processes to improve efficiency and reduce costs. Streamline supply chain operations, optimize inventory management, and negotiate favourable terms with suppliers to minimize expenses and maximize profitability.





# Best practices' mapping and analysis

Click on the pictures to access useful database of the European Commission to map similar best practices. Filter your research depending on your sector of interest, and use the browser's automatic translation, if needed.

Search a Good practice Keyword #CEstakeholderEU	Search by keyword
Key Area	Sector Industry
Country	
Type of organisation or company	Accommodation and food service activities
✓ Identified challenge	Administration
Scope	Agriculture, forestry and fishing
Sector	Arts, entertainment and
Search	recreation ▼ Co-funded by the European Union



# Best practices' mapping and analysis

Once identified the best practice, analyse it in detail answering the following questions:

### Step I

- Does this practice eliminate waste and/or pollution? If no, explain why; If yes, explain how
- Does the company circulate products and materials? Argument your answer
- Does it promote regeneration of nature? Argument your answer
- Identify solutions that could help integrate the missing principles (if any) or boost them

### Step 2

- Does the best practice include one or more of the circular actions studied so far (slide 26). If yes, which one?
- If any of those actions are missing, identify possible solution to integrate them





# Best practices' mapping and analysis

Next, evaluate whether the identified practice negatively impacts any of the dimensions of the Doughnut Economics model:

### Step 3

- Does the practice have a positive impact on all 12 dimensions of the Social Foundation boundary within the Doughnut? In your opinion, is there any dimension that could be impacted negatively?
- Does the practice have a positive impact on all 9 dimensions of the Ecological Ceiling? In your opinion, is there any dimension that could be impacted negatively?
- Suggest possible solutions to prevent or mitigate the identified negative impacts (if any)



# INSIGHTS







# New Circular Economy Action Plan

In March 2020, the European Commission adopted the new <u>Circular Economy Action Plan</u> (CEAP), one of the main building blocks of the <u>European Green Deal</u>. The new action plan announces initiatives along the entire life cycle of products. It introduces legislative and non-legislative measures targeting areas where action at the EU level brings real added value.

Measures that will be introduced under the new action plan aim to:

- Make sustainable products the norm in the EU
- Empower consumers and public buyers
- Focus on the sectors that use most resources and where the potential for circularity is high such as: electronics and ICT, batteries and vehicles, packaging, plastics, textiles, construction and buildings, food, water and nutrients
- Ensure less waste
- Make circularity work for people, regions and cities
- Lead global efforts on circular economy

In particular, the Commission will implement all 35 actions listed in the action plan available at this link https://eur-lex.europa.eu/legal-content/EN/TXT/?gid=1583933814386&uri=COM:2020:98:FIN





### CEAP Actions (a few examples)

#### **ELECTRONICS AND ICT**

#### **Circular Electronics Initiative**

- Promote longer product lifetimes
- Introduce regulatory measures for electronics and ICT
- Implement the 'right to repair'
- Introduce a common charger, improving durability of charging cables
- Introduce a EU-wide take back scheme to return or sell back old devices •
- Restrict hazardous substances in electrical and electronic equipment •

#### **PLASTICS**

- Introduce mandatory requirements for recycled content and waste reduction measures
- Restrict intentionally added microplastics
- Develop labelling, standardisation, certification and regulatory measures on unintentional release of microplastics
- Develop a policy framework on sourcing, labelling and use of bio-based plastics
- Single Use Plastic Products Directive

#### **FOOD, WATER &**

- Propose a target on food waste reduction under the EU Farm-to-Fork Strategy
- Increase the sustainability of food distribution and consumption
- Single-use packaging, tableware and cutlery by reusable products in food services
- Water Reuse Regulation
- Nutrient Management Plan

#### **BATTERIES AND**

### VEHICLES New regulatory framework for batteries

- Establish rules on recycled content and measures to improve the collection and recycling rates of all batteries
- Set sustainability and transparency requirements for batteries taking account of, for instance, the carbon footprint of battery manufacturing, ethical sourcing of raw materials and security of supply, and facilitating reuse, repurposing and recycling

#### **TEXTILES**

#### EU Strategy for Textiles

- New sustainable product framework, empowering business and private consumers to choose sustainable textiles
- Incentives and support to product-as-service models, circular materials and production processes
- Guidance to achieve high levels of separate collection of textile waste
- Industrial applications and regulatory measures •







# **CEAP Monitoring Framework**

This framework is split into 5 thematic areas, each one identifying specific indicators available at country and/or European level

### Monitoring framework

Overview	
Monitoring framework	
Database	
Visualisations	
Publications	
Information on data	~

Please note that for some indicators displayed below, data is only available for the EU as a whole and not for EU countries.

	2
European Union	<
Production and consumption	~
Waste Management	~
Secondary raw materials	
Competitiveness and innovation	~
Global sustainability and resilience	~

https://ec.europa.eu/eurostat/web/circular-economy/overview

					2
European Union					5
Production and consumption					^
	Value	Data	Trend	Metadata	
Material consumption					
Material footprint tonnes per capita	<b>15</b> (2022)	⊞	M	M	i
Resource productivity index 2000 = 100	<b>137.5</b> (2022)	⊞	M	M	()
Green public procurement					()
Waste generation					
Total waste generation per capita kg per capita	<b>4 815</b> (2020)	⊞	M	M	i
Generation of waste excluding major mineral wastes per GDP unit kg per thousand euro, chain linked volumes (2010)	<b>65</b> (2020)		M	M	i
Generation of municipal waste per capita kg per capita	<b>513</b> (2022)	⊞	M	M	(i)
Food waste	<b>131</b> (2021)	⊞	$\mathbf{N}$	M	(i)
Food waste kg per capita	(2021)	⊞		W	1
và hei cahira	(2202)				