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ACCOUNT 4Green Eco

# Welcome and introduction to Teaching Activity 3

## Teaching Activity 3

*Burgos, August 31 – September 4, 2025*

gestionet Play Think Learn

Centre for Sustainability Management

LEUPHANA UNIVERSITÄT LÜNEBURG

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# Welcome to the University of Burgos


UNIVERSIDAD DE BURGOS

# Welcome to the University of Burgos


# Welcome to Burgos

# The Account4GreenEco Project

Partners

Associated partner

# The Account4GreenEco Project

To develop an open and interactive sustainability accounting online learning environment, **the Sustainability Accounting Learning Platform for a Green Economy**, to promote the integration of this topic into the business and accounting curricula in the European Higher Education Area and support the green transition of the EU economy

1

## LEARNING MATERIALS & RESOURCES (WP2)

Module 1
Module 1
Module 3

2

## PLATFORM DEVELOPMENT (WP3)

Architecture & functionalities
Implementation of materials and resources

3

## TEACHING ACTIVITIES (WP2)

Test & validation of materials
Student mobility

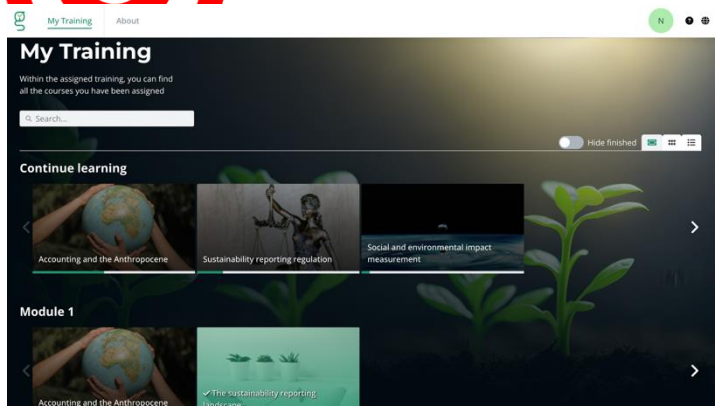
4

## SHARING & PROMOTION (WP4)

During Project lifetime
S&P activities with lecturers and profesionals

GOAL

## ACOUNT4GREENECO ONLINE PLATFORM




# The Account4GreenEco Project

| Module 1<br>Sustainability accounting in the 21st century | Module 2<br>Sustainability accounting production | Module 3<br>Sustainability management accounting |
|---|---|---|
| Leading partner: **UBU** | Leading partner: **UniTrento** | Leading partner: **Leuphana** |
| TA1: **Trento (UniTrento, Oct 23)** | TA2: **Lüneburg (Leuphana, Nov 24)** | TA3: **Burgos (UBU, Sep 25)** |
| U1.1. **Accounting and the Anthropocene**<br>U1.2. **The sustainability reporting landscape** | U2.1. **Sustainability reporting regulation**<br>U2.2. **Social and environmental impact measurement** | U3.1. **Sustainability management accounting**<br>U3.2. **Sustainability management control** |

Teaching activities

# Teaching Activity 3

| Module 1<br>Sustainability accounting in the 21st century | Module 2<br>Sustainability accounting production | Module 3<br>Sustainability management accounting |
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Theory – Practice workshops

+ Platform testing

# Teaching Activity 3


## For Account4GreenEco

- To **validate** the resources and materials integrated into the online platform
- Gather students feedback during the platform's development to test it and ensure its **usability and quality**

## For you

- Develop knowledge of **sustainability accounting**
- Expose yourself to **online learning through gamification**
- Interact in an **international environment**

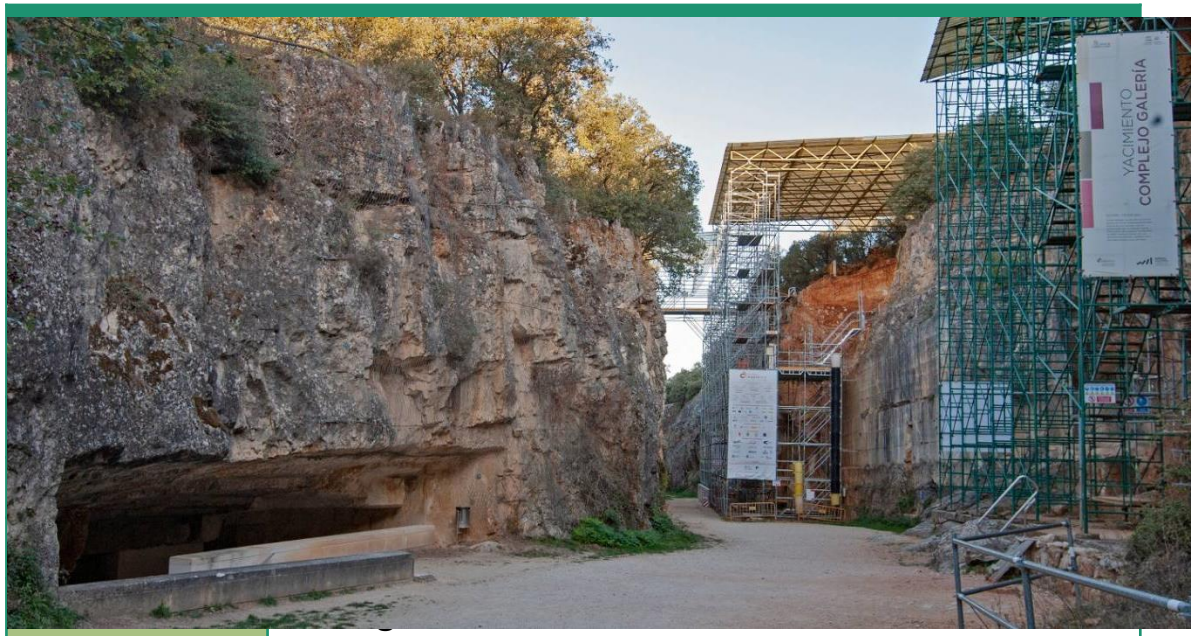
# Teaching Activity 3

| Monday, September 1, 2025 | |
|---|---|
| **Venue:** UBU Library, Room - Aula Formación PB (Ground floor) | |
| 9.00 – 9.30 | **Welcome and introduction to Teaching Activity 3** |
| 9.30 – 10.30 | **Icebreaker Activity** |
| 10:30 – 11:00 | **Sustainability Awareness** |
| 11:00 – 11:30 | **Coffee break** |
| 11:30 – 13:00 | **Module 1. Unit 1.1. Accounting and the Anthropocene** |
| 13:00 – 14:30 | **Lunch**<br>Residencia Universitaria Camino de Santiago |
| 14:30 – 15:30 | **Module 1. Unit 1.1. Accounting and the Anthropocene** |
| 15:30 – 16:30 | **Module 1. Unit 1.2. Sustainability reporting landscape** |
| **Venue:** Burgos, Historic Centre | |
| 18:00 – 20:00 | **Guided tour and visit to the Cathedral**<br>Starting in Arco de Santa María. |
| 20:30 | **Dinner**<br>Hotel Silken Gren Teatro |

| Tuesday, September 2, 2025 | |
|---|---|
| **Venue:** UBU Library, Room - Aula Formación PB (Ground floor) | |
| 9:00 – 10:30 | **Module 1. Unit 1.2. Sustainability reporting landscape** |
| 10:30 – 11:00 | **Coffee break** |
| 11:00 – 13:30 | **Module 2. Unit 2.1. Sustainability reporting regulation** |
| 13:30 – 15:00 | **Lunch**<br>Residencia Universitaria Camino de Santiago |
| 15:00 – 17:30 | **Module 2. Unit 2.2. Social and environmental impact measurement** |
| **Venue:** Burgos, Historic Centre | |
| 20:30 | **Dinner**<br>En Tiempos de Mari Castaña |

# Teaching Activity 3

| Wednesday, September 3, 2025 | |
|---|---|
| **Venue:** UBU Library, Room - Aula Formación PB (Ground floor) | |
| 9:00 – 12:00 | **Module 3. Unit 3.1. Sustainability management accounting**<br>• **Including coffee break** |
| 12:00 – 13:00 | **Group discussion** |
| 13:00 – 14:30 | **Lunch**<br>Residencia Universitaria Camino de Santiago |
| **Meeting point:** University of Burgos | |
| 14:30 – 17:30 | **Visit to Atapuerca** |
| 20:30 | **Dinner**<br>Paquita Mariví Gastrobar |




| Venue: Burgos, Historic Centre | |
|---|---|
| 20:30 | **Dinner**<br>Hotel Rice Palacio de los Blasones |

# Teaching Activity 3

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# Some key information before we start

- **Documentation**
  - Sign attendance list in all sessions (morning/afternoon)
  - Sign data protection document
- **Certificate of attendance**
  - Attend all sessions
  - Fill in the two sustainability awareness surveys and the forms in the specific feedback session
- **Continue testing the platform after the session**
  - The platform will be available to you during the next 10 days after TA3

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The project “Sustainability Accounting Learning Platform for a Green Economy” (Account4GreenEco) is co-funded by the Erasmus+ programme of the European Union (Ref. 2022-1-ES01-KA220-HED-000089844). The content of this presentation is the sole responsibility of the Account4GreenEco Partnership and neither the European Commission nor the Spanish Service for the Internationalisation of Education (SEPIE) are responsible for any use that may be made of the information contained therein.

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# Icebreaker Activity

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# Let's get to know each other!

## How doest it work?

- There will be **4 rounds of group** interaction (of 8 minutes each).
- Each group will have, at least, **one student from each university**.
- In each round, **groups will rotate** so that we at least interact one time with all people.
- In each round, you'll **answer a prompt question** within your group to get to know each other, as well as our universities.

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# Sustainability awareness Pre-activity

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# You can access the survey here


**20 minutes**

**Direct link:**
https://forms.office.com/e/L5258K1tXe

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ACCOUNT 4Green Eco

# Unit 1.1. Accounting and the Anthropocene

## Teaching Activity 3

*Burgos, August 31 – September 4, 2025*

**Germán Gamero-Igea (University of Burgos)**

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# Competences of this unit

- Understand the **implications of human activity** in the environment
- Classify the **different phases** in the relationship between human behaviour and the environment
- Appreciate the **historical roots** of social and environmental problems
- Identify the **role of accounting** in constructing past and present relationships between humanity and its environment
- Reflect on **other economic rationalities** and the role of accounting
- Describe the **current initiatives** and concepts that can help change the role of accounting to a more sustainable path

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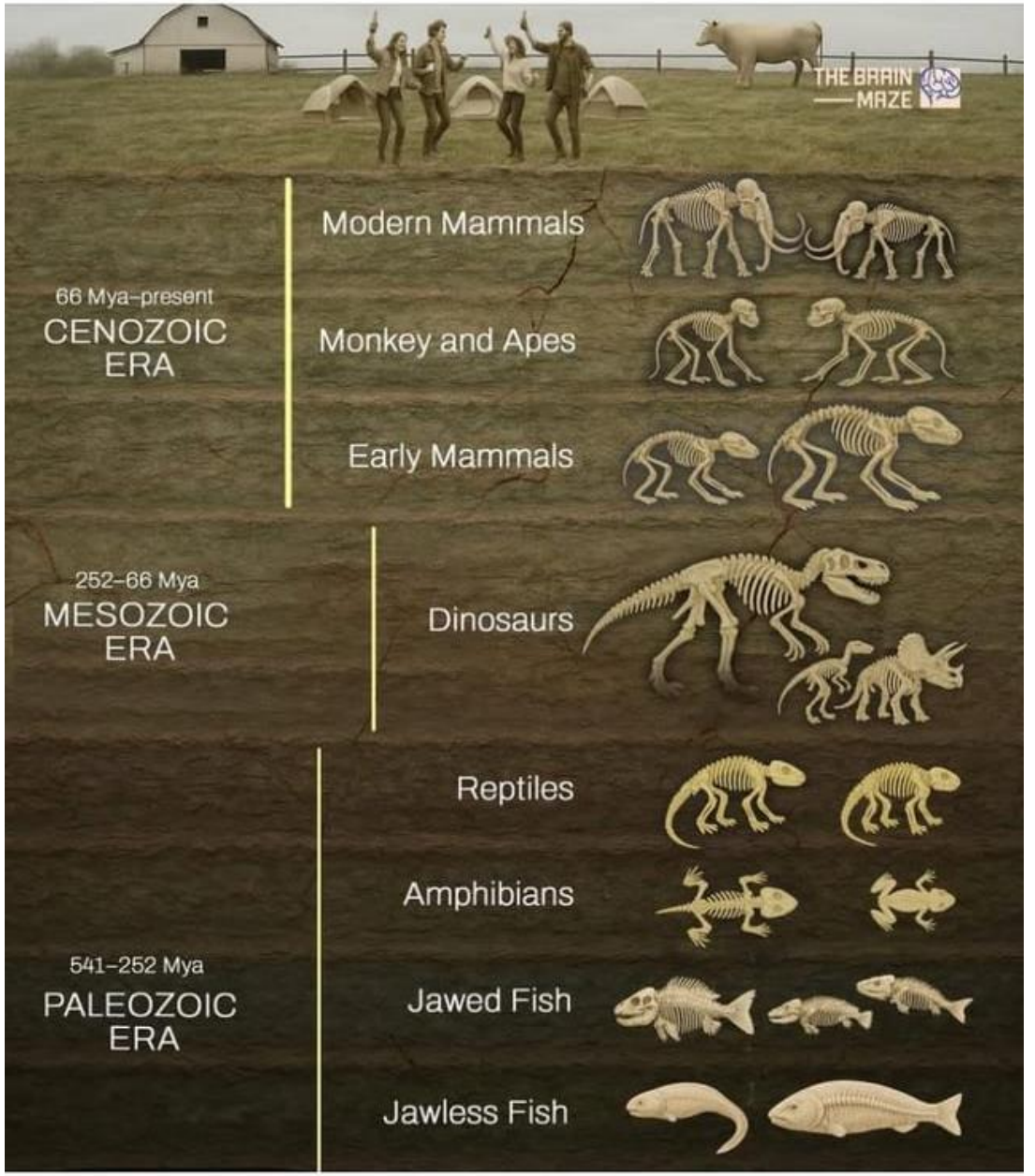
# A New Geological Epoch: The Anthropocene

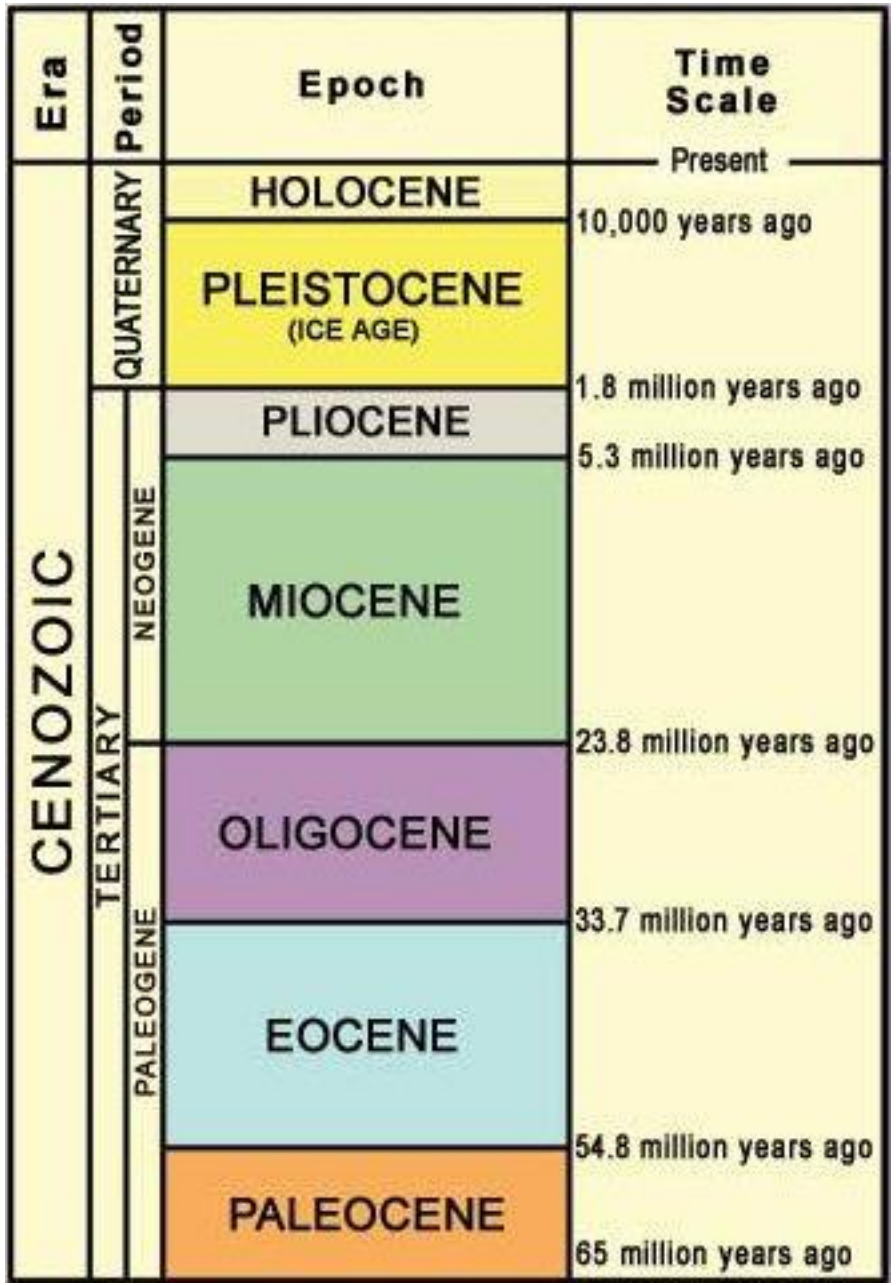
- We live in the **Cenozoic** era, a sub-division of the planet's evolution that started **66 million years** ago.
- The previous era was the **Mesozoic** era
  - Famous because of the division of the Pangea continent and the emergence of dinosaurs
  - Also, the Mesozoic is famous in popular culture because of its end: the probable collision of an asteroid.

This observation shows that geological eras are **not only influenced by internal factors**. Meteorites, the sun's activity, and other factors, such as human activity, have influenced the evolution of the Earth.

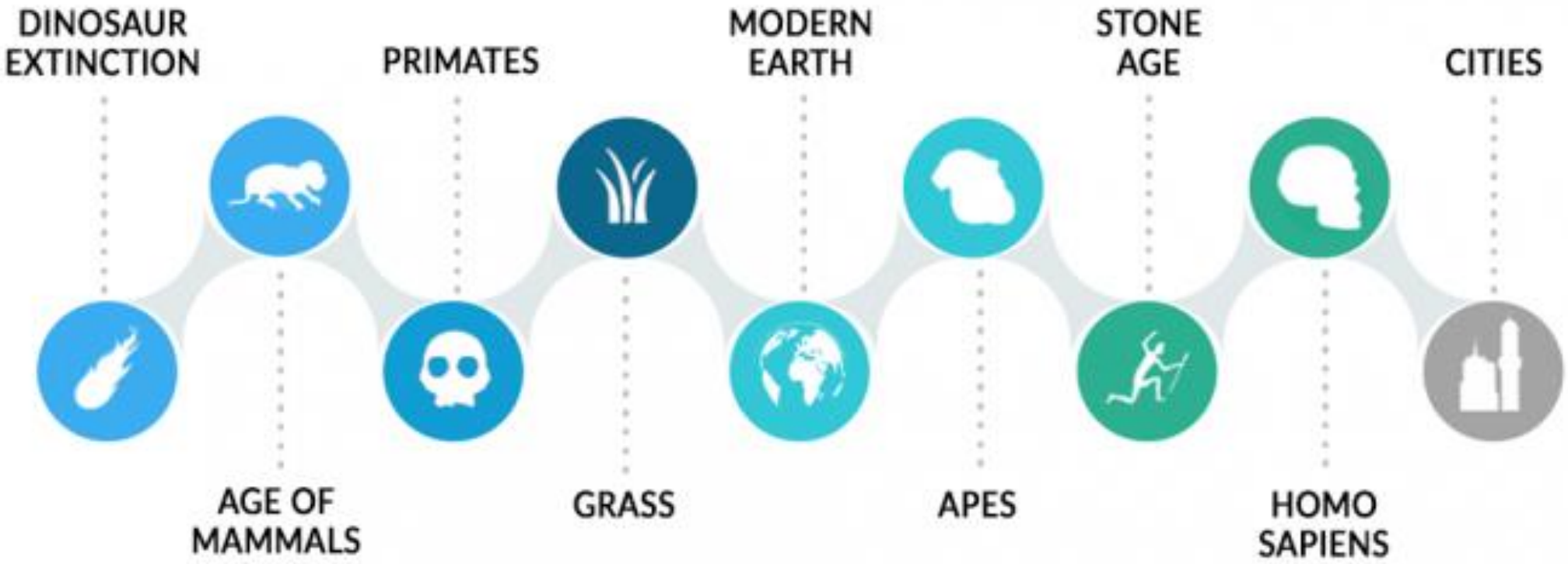


# A New Geological Epoch: The Anthropocene

- Cold temperatures and glaciations have been the dominant rule of the Cenozoic, especially in its first epoch: the Pleistocene.
- The **Holocene**, **has been, until now, a warm period,** with no glaciations.
- This has been crucial for the history of humanity, since it have allowed to develop human life first, and especially human civilizations during this stable and warm period.
- The end of the glaciations, for example, implied the emergence of homo sapiens, the extinction of big mammals, the rise of new vegetables and, at the very end the rise of agriculture.

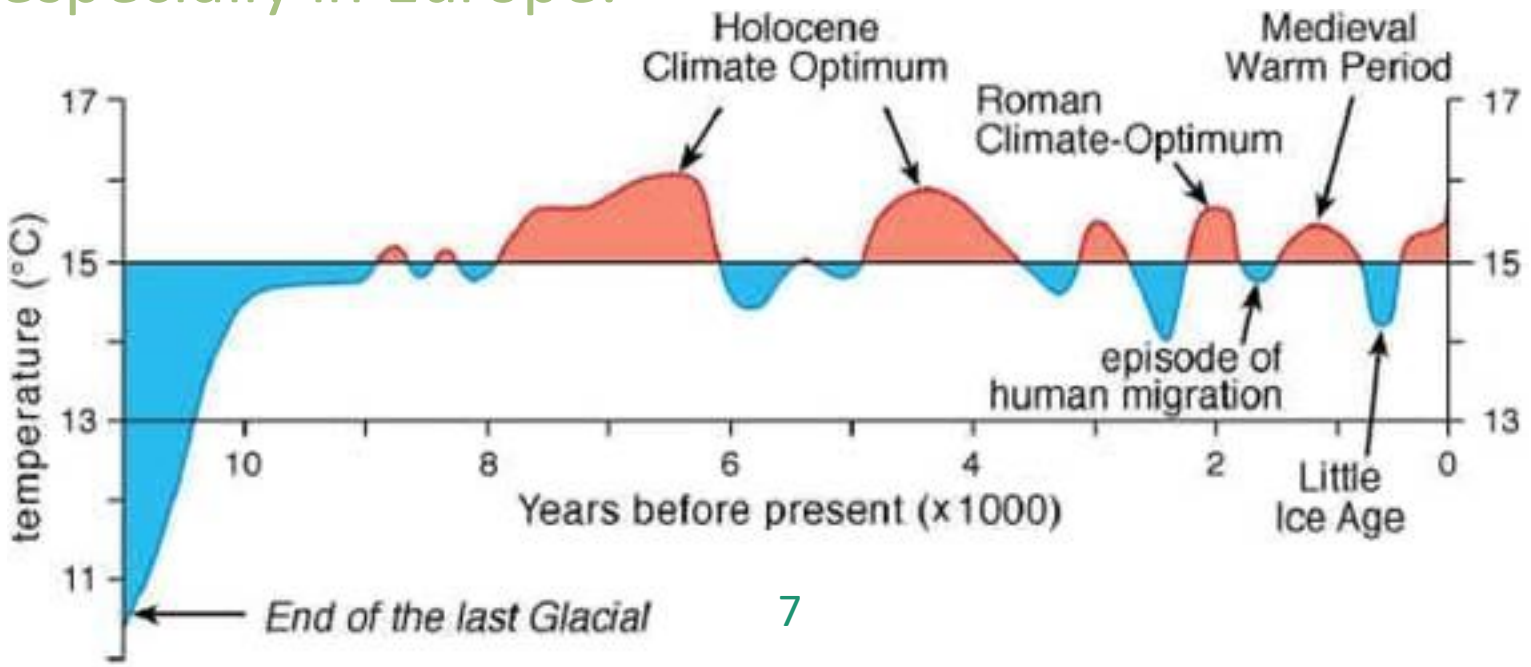


# A New Geological Epoch: The Anthropocene



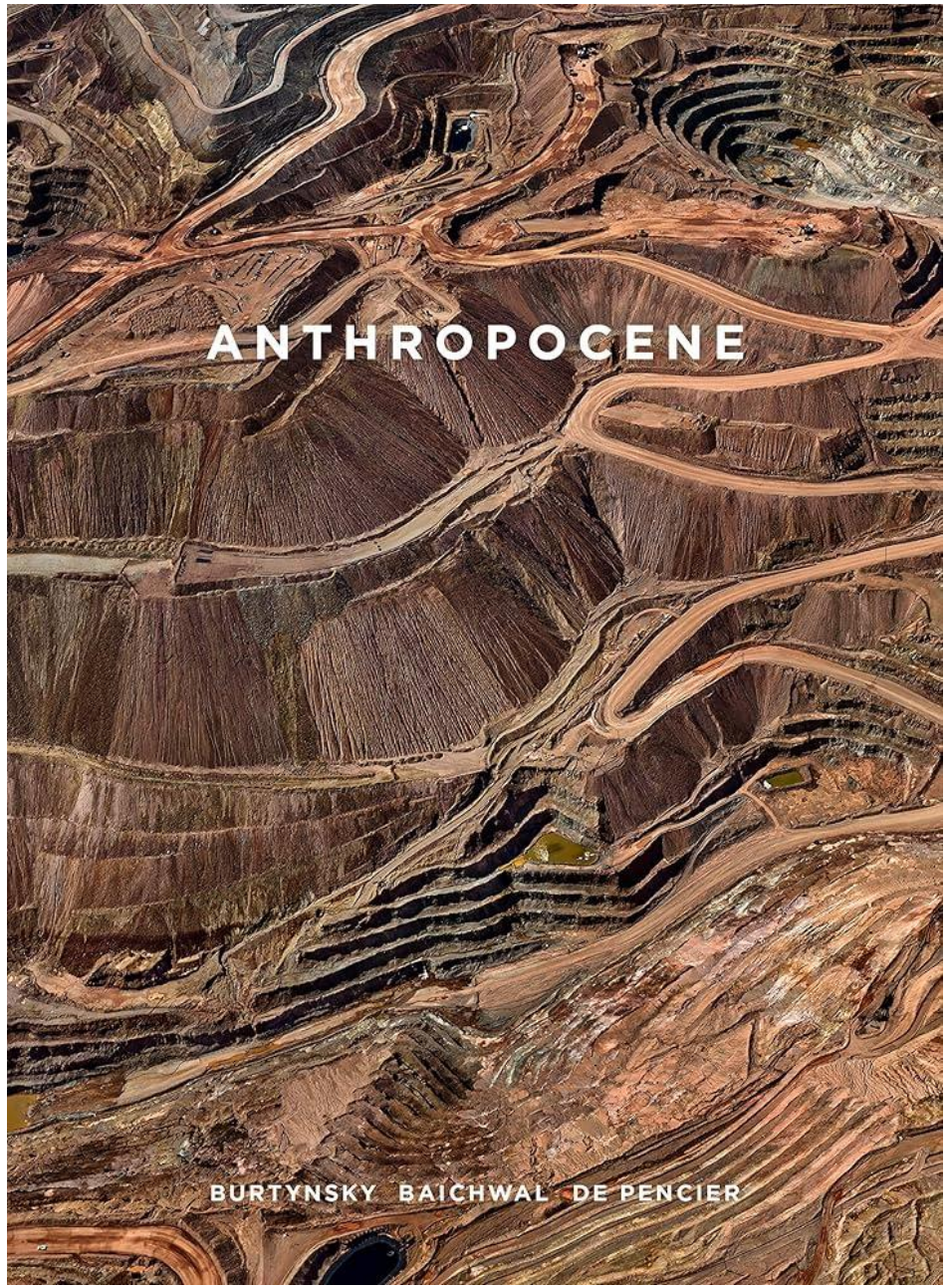
# A New Geological Epoch: The Anthropocene

- Those are structural conditions of human life in Earth. But we have also to consider that the 'optima' (warmer conditions in Earth) of the Holocene are strictly related with some key moments of human History, especially in Europe.



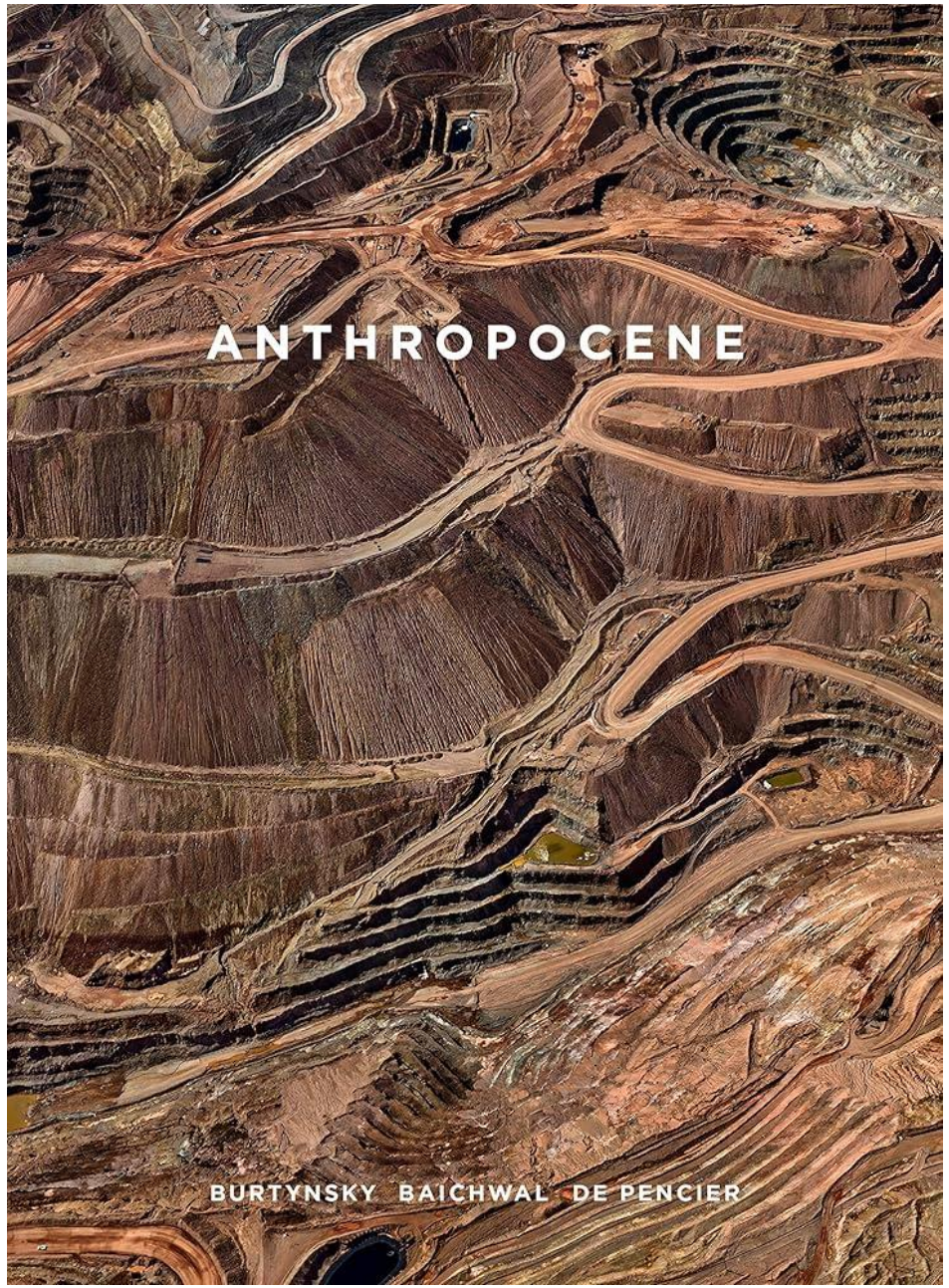
# A New Geological Epoch: The Anthropocene

- Dating the start date of the Anthropocene is tricky (Bebbington et al., 2020)
- It is worth noting that all the changes that led to this epoch started to materialize only 500 years ago, and especially 50 years ago.
- **Changes** in a geological composition (and it implies biological changes) are **getting quicker**
- It is uncertain how ecological systems will face them since natural processes have a very long dimension



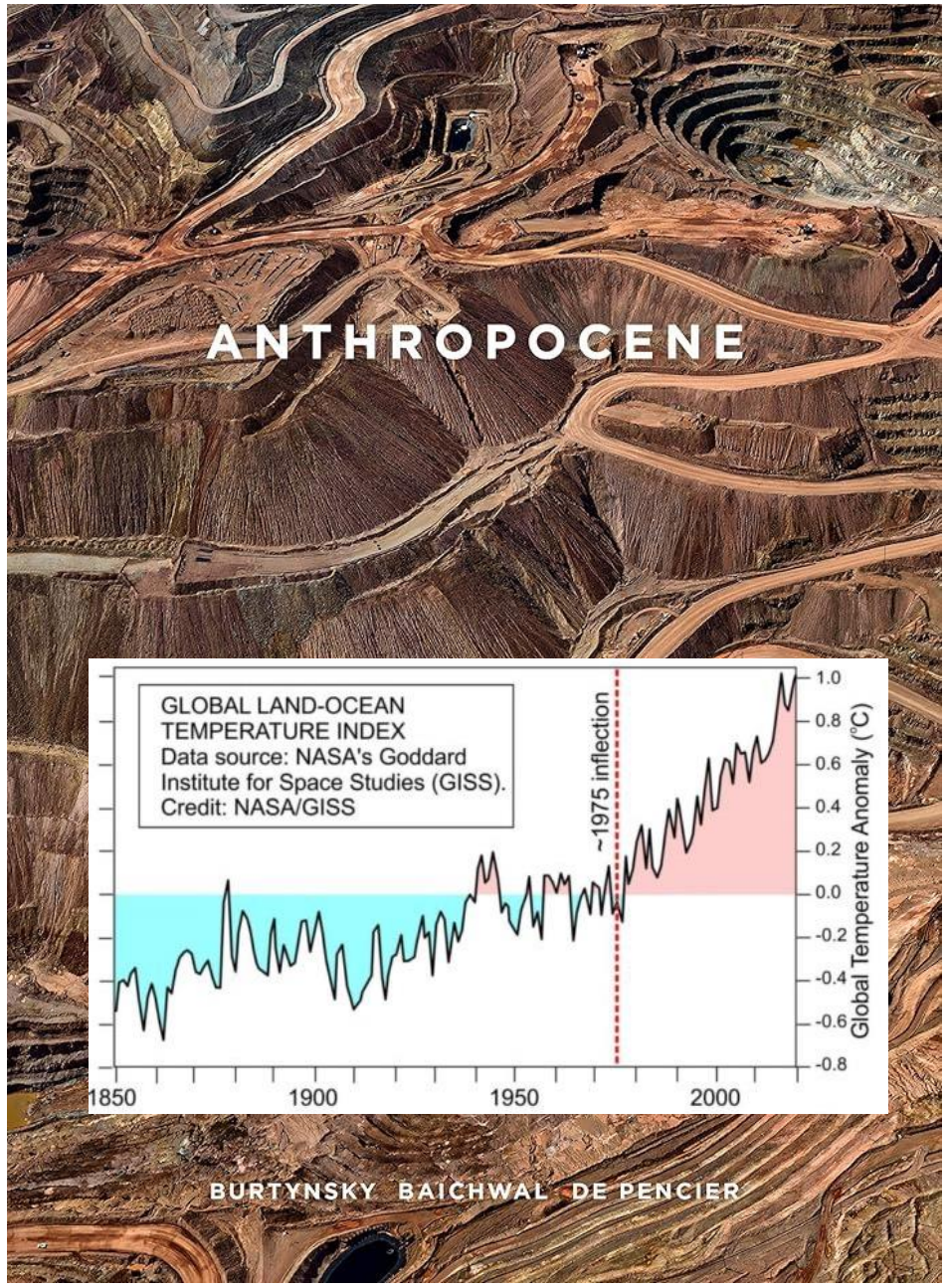
# A New Geological Epoch: The Anthropocene

| Indicator | Human activity |
|---|---|
| **Temperature** | The last time we know about an incrementation of 4ºC (an estimation in a possible scenario at the end of the 21st century) was 15 million years ago.<br>We have not registered the gas induced by human activity since 1750 (555 petagrams of carbon) for 800.000 years. It will postpone the next glacial cycle for half a million years. |
| **Stratigraphy** | Regarding the implementation of atomic weapons since 1945, humanity has created a radioactive isotope stratum.<br>Between 30% and 50% of the planetary surface has been modified by human actions, primarily related to agricultural activities. |
| **Biodiversity** | Around a million species of animals and plants are in extinction danger due to direct or indirect (unsustainability agriculture, climate change) human behaviour.<br>Transoceanic exchanges of animals and plants have no geological analogue. |



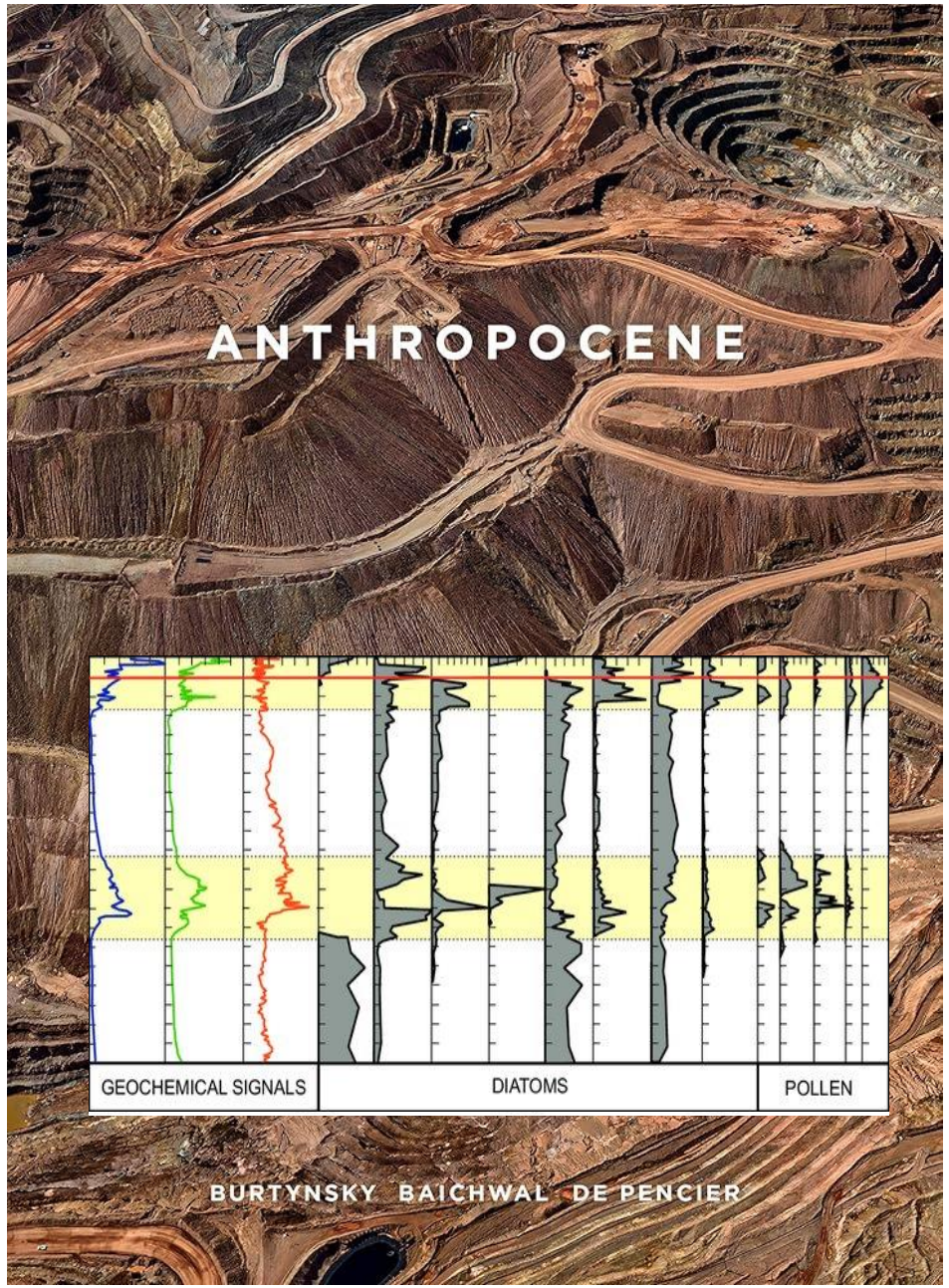
# A New Geological Epoch: The Anthropocene

- Temperature
  - The most relevant indexes is the **NASA Global Temperature Anomaly**, which provides, in a very syncretic way, a historical perspective of the evolution of temperature variations. Figure 3 shows that the temperature rise started, at least in 1850, but its incrementation has been most noticeable since 1975.



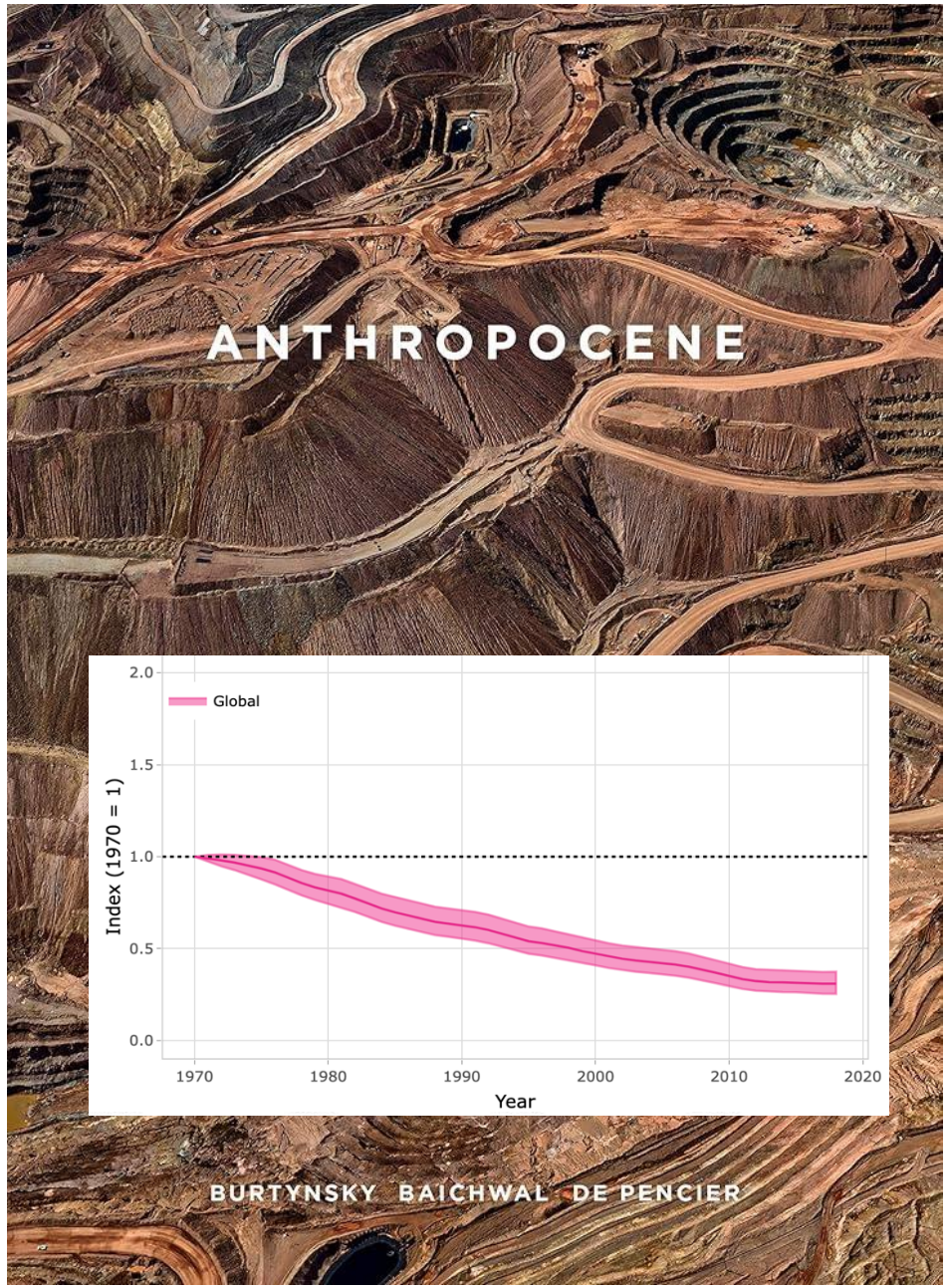
# A New Geological Epoch: The Anthropocene

- Stratigraphy
  - Despite no consensus about what these elements take to define the new geological period, geologists have proven the possibility of dating stratus made by human action. For instance, Zalasiewicz et al. (2017b) proposed the analysis of Crawford Lake (Toronto) as an example of how different indicators (geochemical signals, diatoms, and pollen) prove human activity, especially in the second half of the 20th century.



# A New Geological Epoch: The Anthropocene

- Massive extinction
- We have lost approximately 50% of the vertebrate biodiversity in the past 50 years. A million different animal and plant species are in danger of extinction (especially corals).
- Some **causes** of this problem are
  - (1) agriculture,
  - (2) direct exploitation of animal/vegetal resources,
  - (3) climate change,
  - (4) pollution
  - (5) invasive species



# A New Geological Epoch: The Anthropocene

Some critics

- The term **Anthropocene** only stresses the influence of human action
- However, this generic and neutral idea of Humanity has been criticized since disconnect causes and consequences. Trying to specify the, Academy have proposed some alternatives:
  - **Capitalocene,** because the turning point started with the Industrial Revolution use of non-renewable sources of energy, and raw materials have caused the environmental crisis
  - **Technocene**, because the Industrial Revolution and the fast development of technology are crucial in this momentum. But Technology is problematised as a "magic" tool. So, the problem is not only our way of living but also **our rationality** and historical genealogies. We need to modify our consumption and understand our relationship with **progress** in another way.
  - **Neolithic,** because The start of agricultural civilizations, sedentarism, domestication of animals, and social classification are the critical elements of the Anthropocene, and all started 5,000 years B.C.
  - **Androcene** because Western society's structural problems are the key to the geological modifications. From a structural perspective (patriarchy, neolithic and private property) and in a present perspective (patriarchy, bourgeoise and industrial revolution)

# A New Geological Epoch: The Anthropocene

Some proposals

- **Administrative Rationalism**.
  - Top-down decisions are made, and the role of the **technocrats** is crucial in solving environmental problems
  - Government actions are based on science, especially **scientific evidence**.
  - **Cost-benefit analysis** is a critical element in this system.
  - This analysis implies an economic valuation and the implementation of environmental impact assessments as governmental tools.
  - State administration, more than an agent in society, has a special influence on changing the context of the population, but without forcing people directly.

# A New Geological Epoch: The Anthropocene

Some proposals

- **Democratic Pragmatism.**
  - This discourse focuses on a **resolving-problem** perspective.
  - It is a middle point between the strength of government and a decentralised way of acting. Initiatives are usually voluntary and cooperative; they do not have to be related to a unique government or territory.
  - Science is also important in this discourse, but from a more methodological approach. In this discourse, problems are conceived as (scientific) **experiments**.
  - The provision of information to other partners or the public in general is a fundamental issue in this perspective. A remarkable way of formalising this democratic pragmatism is the concept of **stewardship**.

# A New Geological Epoch: The Anthropocene

Some proposals

- **Economic Rationality .**
  - This discourse argues that the transition to a sustainable environment will be more economical and easier to accept by society if we employ market rationality.
  - This initiative started during the 1970s and 1980s, especially in Europe. It implies long-term policies and points of view and civil society participation, specifically NGOs.
  - An argument for this leadership is that these territories have applied a **principle of prudence** in their decision-making. Contrary to the first discourse that based its decisions on scientific evidence, in economic rationality, governments and society are concerned about **scientific discussions** and are still waiting for results.
  - Facing Anthropocene is about an indicator of efficiency in their industries and agriculture.

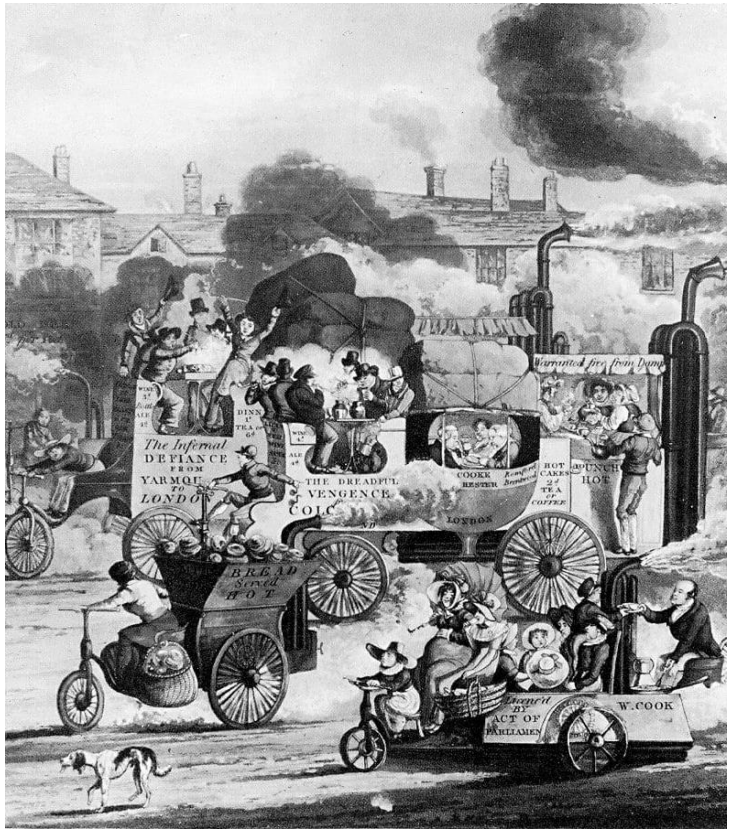
# Accounting and the Emergence of the Anthropocene

- At the end of the Middle Ages (13th-15th centuries), high temperatures promoted agricultural activity, which increased and, therefore, commerce
- Despite some terrible situations, such as the black death it was a period of intensive economic growth
- The first symptom of this evolution was the rupture of the regional circuits of commerce
- Bill of exchanges and credit solved some technical problems related to (lack of) money
- The development of modern state systems made the economic transactions more complex when the Europeans colonised America

# Accounting and the Emergence of the Anthropocene


- The Escuela de Salamanca provides some moral pillars to understand the relationship between profit and time (Azpilicueta, for example, is consider nowadays as the father of the quantitative theory of money)
- French entrepreneurs, especially during the Colbert period (1660-1680), collaborated with the royal power to establish a more efficient taxation system. Merchants showed the royal treasury how vital the fluidity of communications
- England and Britain developed peculiarities that drove the new colonialist rationality, early modern companies achieved an enormous capacity and became a central institution in business and the state. The company had its army and its territories. They also implemented a new economic logic to administrate the territories

# Accounting and the Emergence of the Anthropocene




- Since the 17th century, but especially the 18th century, wars became more aggressive in Europe. At this moment, the British Empire's situation helped to improve its economic and military power
- Factories started their history during the eighteenth century, especially in France, where the royal power developed some manufactories to provide luxury products to a growing court
- A new idea of scientific accounting appeared, influenced by the Enlightenment and English empiricism. Cost accounting acquired a new dimension and, in general the philosophic ideas of the empiricism were translated to the business world, also to accounting
- Public accounting started to be an argument in parliaments on topics such as international trade, fiscal policy, or national debt. Accounting's capacity to reduce complex (national) situations to numbers allowed it to become a source of arguments in public debates.

# Accounting and the Emergence of the Anthropocene


- Europe drove a new way of domination based on a statal paradigm, people displacement and natural extraction.
- Non-European territories assumed the role of internal trade for the metropolitan stock (composed of people and products)
- Global trade created two different areas, a producer and a consumer, so the population was affected by its location and social class
- A vital aspect of this system was the reproduction of the metropolitan conditions in the colonies. The bourgeoise triumph in the 19$^{th}$ century also implied an imposition of a unique model of a way of living.
- One of the examples of this process are cities: the urban society, was supposed a more efficiency in their economic purposes (manufacturing, extraction of raw materials and trade to the metropolis).

# Accounting and the Emergence of the Anthropocene

- The excessive competition between European nations in peaceful times and the pressure they imposed on their colonies during war blew up the political ties.
- The imperial model haven't resolved any political nor economical problem between the metropolis and the colonies.
- We are living in the second explosive moment in current times. Since informal imperialism had deeper roots than formal power, it remains alive despite the colonies' political independence. Nevertheless, the economic logic of appropriation is facing the situation that the planet cannot provide more space for economic growth, at least as we have historically conceived

# Navigating Back to a Safe Operating Space for Humanity

- Accounting, mainly in the form of instruments and logics, has played a significant role in supporting the predatory financial logic that puts Humanity at the brink of endangering our safe operating space to live
- financial statements overlook the social and environmental aspects, both positive and negative, related to corporate activities.
- when financial statements consider information on sustainability aspects, they are treated in a way that may drive decisions against environmental protection and social justice.
- Accounting is not a technical and neutral device capable of representing a unique and indisputable economic reality

However, alternative articulations of accounting can be designed and deployed in a way that helps us navigate back to the safe operating space for humanity.

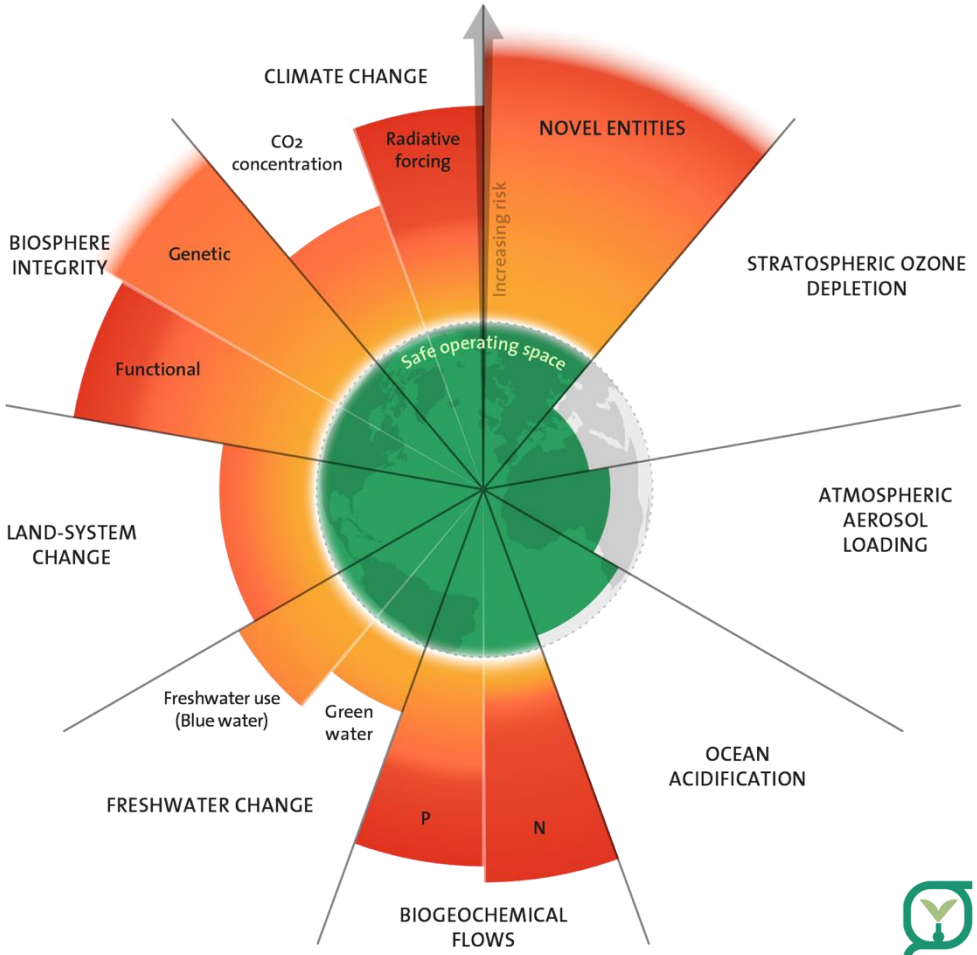
For that purpose, sustainability accounting should contribute to making corporations accountable for their social and environmental impacts.

# Navigating Back to a Safe Operating Space for Humanity

The **planetary boundaries (PB)** is **one of the most accepted and relevant frameworks** describing the status of Earth in the Anthropocene.

It identifies and calculates the resilience levels of Earth to our current lifestyle. The PB distinguished **three levels of human perturbation**.

- The first level is the **safe space**. Based on current scientific analysis, Earth's ecosystem could be resilient to these impacts below this level.
- The second level is that of uncertainty. This second level represents those situations that experts expect might be dangerous for the planetary ecosystem but with no definitive scientific evidence yet.
- The third level is where scientists could provide evidence that the Planet's ecosystem is not resilient beyond these values



# Navigating Back to a Safe Operating Space for Humanity


- Science-based targets to address sustainability problems are established at a global level. This global definition requires their disaggregation to make them manageable. The process of disaggregating science-based targets and making them operational involves four different steps (Andersen et al., 2021):
  - A thorough and impartial evaluation and consolidation of the current scientific knowledge.
  - Discussions among governments, multilateral organisations and relevant stakeholders to establish universally accepted targets based on scientific evidence.
  - Implementation of methodologies for breaking down the global science-based targets into specific objectives,
  - Active involvement from all sectors of society to ensure effective implementation of actions for their achievement.

# Navigating Back to a Safe Operating Space for Humanity

- Economic degrowth is **one of the most critical frameworks** to manage the environmental crisis.
- Is defined as “an equitable downscaling of throughput, with a concomitant securing of wellbeing” (Kallis et al., 2018,p. 297).
- One of the most exciting things about this framework is that it is not only based on scholars’ research but is **also composed of multi-directional participation of ecological and economic activists and political stakeholders**.
- A central issue in degrowth studies **is to criticise the existing paradigm of creating well-being because it focuses on the GDP**. For this framework, GDP is only the newest form of trust in accounting numbers that appeared at the beginning of the Modern Period.
- The main economic proposals for degrowth are:
  - Promote the social against economic life.
  - Creative and not commercialized leisure.
  - Fair work and rents distribution.
  - Reduction of the productive infrastructures.
  - Local focus vs globalization.

# Navigating Back to a Safe Operating Space for Humanity

- Accounting can prove to be a valuable tool in supporting corporations in establishing and monitoring their contribution to the SDGs (Bebbington & Unerman, 2018). Accounting can help organizations in three different ways:
  - The production of information, both quantitative and qualitative, to set individual objectives related to the SDGs.
  - Promoting transparency and accountability through the disclosure of information on how companies are implementing actions to achieve the SDGs.
  - Facilitating the translation between the global scale of the SDGs to the operational at the entity level.

ACCOUNT 4Green Eco

Co-funded by the European Union

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ACCOUNT 4Green Eco

# Unit 1.2
# The Sustainability Reporting Landscape

## Teaching Activity 3

*Burgos, August 31 – September 4, 2025*

**University of Burgos**

gestionet Play Think Learn

Centre for Sustainability Management

LEUPHANA UNIVERSITÄT LÜNEBURG

MBS since 1897

UNIVERSIDAD DE BURGOS

UNIVERSITÀ DI TRENTO

# Goal of the session

To understand:

- What sustainability reporting is.
- The importance of materiality in determining the content of sustainability reporting.
- The process to perform materiality assessment.

**Structure**

- **Monday** → theoretical session
- **Tuesday** → case study group on materiality assessment

# Sustainability reporting

Practice of **producing reports** that explain how organisations manage the **social, environmental, and economic** dimensions of their businesses, as well as their **corporate governance** arrangements set for that purpose, by informing about their **priorities, policies, and actions, as well as the impacts**, both positive and negative, of their operations on those dimensions.

Sustainability report


Link to report

✗ Not communication or marketing

# Sustainability reporting

## Purposes

**Accountability** → provide stakeholders with information to assess how it manages the social and environmental impacts that its business generates

**Valuation** → provide financial capital providers with information to evaluate their investments' future value.

**Stewardship** → provide financial capital providers with information to assess the use of the capital they provide to the organisation.

# Sustainability reporting

**Purposes - Users**

**Accountability** → provide **stakeholders** with information to assess how it manages the social and environmental impacts that its business generates

**Valuation** → provide **financial capital providers** with information to evaluate their investments' future value.

**Stewardship** → provide **financial capital providers** with information to assess the use of the capital they provide to the organisation.

# Sustainability reporting

## Sustainability Report

**General information**

**2.1.** Basis for preparation
**2.2.** Strategy and business model
**2.3.** Materiality
**2.4.** Governance
**2.5.** Due diligence
**2.6.** Datapoints that derive from other EU legislation
**2.7.** Disclosure requirements addressed

**Environmental information**

**2.8.** European Taxonomy for sustainable activities
**2.9.** ESRS E1 - Climate change
**2.10.** ESRS E5 - Circular Economy

**Social information**

**2.11.** ESRS S1 - Own workforce
**2.12.** ESRS S2 - Workers in the value chain
**2.13.** ESRS S4 - Consumers and end-users

**Governance information**

**2.14.** ESRS G1 - Business conduct

**Sustainability notes**

**2.15.** Policies
**2.16.** Information required on non-material topics
**2.17.** Compliance table of Spanish Law 11/2018

## Sustainability report


Link to report

# Sustainability reporti

## Environmental information

### Transition risks

| | |
|---|---|
| **Statutory / Legal** | Increased operational costs due to carb |
| **Market** | Exposure to changes in carbon credit p |
| | Changes in the cost of energy due to e |

### Transition opportunities

| | |
|---|---|
| **Resource efficiency** | Improvement of energy efficiency and subs operations (E1_OP03) |
| **Energy sources** | Consumption of renewable energy through reduction in operational costs (E1_OP04) |
| **Products and services** | Growth of the business linked to the develo decarbonisation of other sectors of the ecc |
| **Market** | Possibility of accessing sources of sustaina |

E1-3, E1-4, MDR-A

### 2.9.3.2. Action plans

#### Decarbonisation levers

E1-4_23

In order to meet its emissions reduction targets, Telefónica has defined a set of decarbonisation levers. These are classified according to their impact on operational emissions (Scopes 1 and 2) and on indirect value chain emissions (Scope 3):

actions subsection of this section (2.9.3.2. Action plans).

- Supplier engagement.
- Circular economy of equipment and others.

E1-3_01, E1-3_03, E1-3_04

It is estimated that the implementation of these levers will achieve the following reductions:

| | Scope | Base year[10] | Achieved emissions/ reductions 2024 ($tCO_2e$) | Expected emissions/ reductions 2030($tCO_2e$) |
|---|---|---|---|---|
| **GHG emissions ($tCO_2e$)** | 1+2+3 | 4,666,699 | 2,237,611 | 1,400,000 |
| Reductions | 1+2+3 | N/A | -2,429,087 | -837,612 |
| Energy consumption | 1+2+3 | N/A | -1,690,882 | -247,201 |
| Supplier engagement | 3 | N/A | -546,900 | -460,000 |
| Circular economy of equipment and others | 3 | N/A | -191,305 | -130,411 |

The 2030 emissions projections were calculated based on the activity data from Telefónica's 2024-2026 Strategic Plan and market trend forecasts (renewable energy targets, fuels reduction in operations and fleet, reduction of refrigerant gases leaks, the emissions reduction targets of Telefónica's main suppliers, trends in the energy mix in the countries where Telefónica operates or changes in the composition of the fuels used for mobility, according to existing policies and forecasts).

Due to the uncertainty associated with internal and external factors beyond 2030, there is no quantification of the emissions reductions expected for 2040 beyond the achievement of the net zero target, which implies reducing emissions by 90% compared to the base year. This leads to total projected emissions (Scopes 1, 2 and 3) of around 470,000 $tCO_2e$ and a reduction of 4.2 million $tCO_2e$ from 2015 onwards.

For further information about the activities carried out, the incorporation of new technologies and their role in reducing emissions and meeting the targets set in climate-related policies, see the Adaptation and mitigation actions subsection.

energy efficiency. It also foresees greater climate action in the value chain, including promotion of the circular economy and setting emissions reduction targets for the main suppliers.

#### Adaptation and mitigation actions

E1.MDR-A_01-12

These are the climate change adaptation and mitigation actions that Telefónica is working on:

1. Renewable Energy Plan.
2. Energy efficiency projects.
3. Supplier engagement.
4. Circular economy of equipment.
5. Business Continuity Plans.
6. Insurance Programs and Coverage for climate-related events.
7. Products aimed at decarbonising the economy

#### 1. Renewable Energy Plan

# Sustainability reporting

## Social information

S1-6

### 2.11.3.2. Characteristics of the Company's employees

S1-6_01, S1-6_02

**Number of employees by gender**

| Gender | 2024 |
|---|---|
| Men | 60,992 |
| Women | 39,874 |
| Other | 1 |
| Not defined | 3 |
| **Total Employees** | **100,870** |

S1-6_04, S1-6_05

**Number of employees by country**[3]

| Country | 2024 |
|---|---|
| Brazil | 36,200 |
| Spain | 25,086 |
| Argentina | 10,221 |

**Working conditions**

As regards secure employment, working time, adequate wages and work-life balance (S1_IP01), the Company carries out the following actions:

- Permanent contracts are prioritised to ensure job stability, in addition to having specific programs for young talent, such as scholarships and internships, the impact of which is monitored through regular reports.
- Pay reviews are conducted regularly and professional classification systems have been implemented to promote competitiveness and equity. Additional benefits are offered such as share schemes and salary advances.
- Digital disconnection is encouraged through initiatives adapted to local regulations, such as flexible hours, gradual reductions in weekly working hours, hybrid and remote work, and record-keeping systems to regulate overtime. The Company offers extended family care leave and parental leave.

# Sustainability reporting

## Social information

| 4G coverage | 2024 |
|---|---|
| **Group** | **90.8%** |
| Germany | 99.9% |
| Brazil | 96.5% |
| Spain | 98.2% |
| Hispam | 83.7% |

| 5G coverage | 2024 |
|---|---|
| Germany | 97.2% |
| Brazil | 61.1% |
| Spain | 90.8% |

### Types of consumers and end-users

S4.SBM-3_01

All types of consumers and users are considered during the materiality analysis process, as well as those groups of customers who may be more impacted by Telefónica's activity due to certain circumstances.

S4.SBM-3_02

Two major types of consumers and users have been defined:

- B2C (Business to Consumer) customers, also known as residential customers. These are individuals who gain the right to use and benefit from the services and products the Company provides through a contractual relationship with Telefónica.
- B2B (Business to Business) customers or corporate customers. These are legal entities that gain the right to use and benefit from the services and products the Company provides through a contractual relationship.

S4.SBM-3_03

Within these two general types of consumers, three subcategories stand out as being particularly affected by the impacts analysed:

# Sustainability reporting

## Governance information

| Sustainability topics | | | Description and typology of the risk or opportunity | Value chain an | | |
|---|---|---|---|---|---|---|
| | | | SBM-3_02, IRO-1_08 | | | |
| Code | Subtopic | Sub-subtopic | Risk or opportunity detail | Procurement | Research and development | Operations |
| G1_RI01 | Corruption and bribery | Prevention and detection, including training | Impact risk: deterioration of the Company's control environment and its value chain due to the absence or insufficiency of corruption prevention and detection measures | x | x | x |
| G1_RI02 | Corruption and bribery | Incidents | Impact risk: fines or sanctions from the competent authorities due to the occurrence of corruption and bribery cases related to the Company | | | x |
| G1_RI03 | Network and data security | Cybersecurity | Impact risk: cyberattacks on Telefónica's IT systems or those of its suppliers, allowing unauthorised individuals to access sensitive information belonging to customers, employees or companies within the value chain | x | | x |

### 2.14.4.2. Political influence and lobbying activities

In relation to the main issues addressed by lobbying activities, Telefónica supports five positions:

G1-5_09

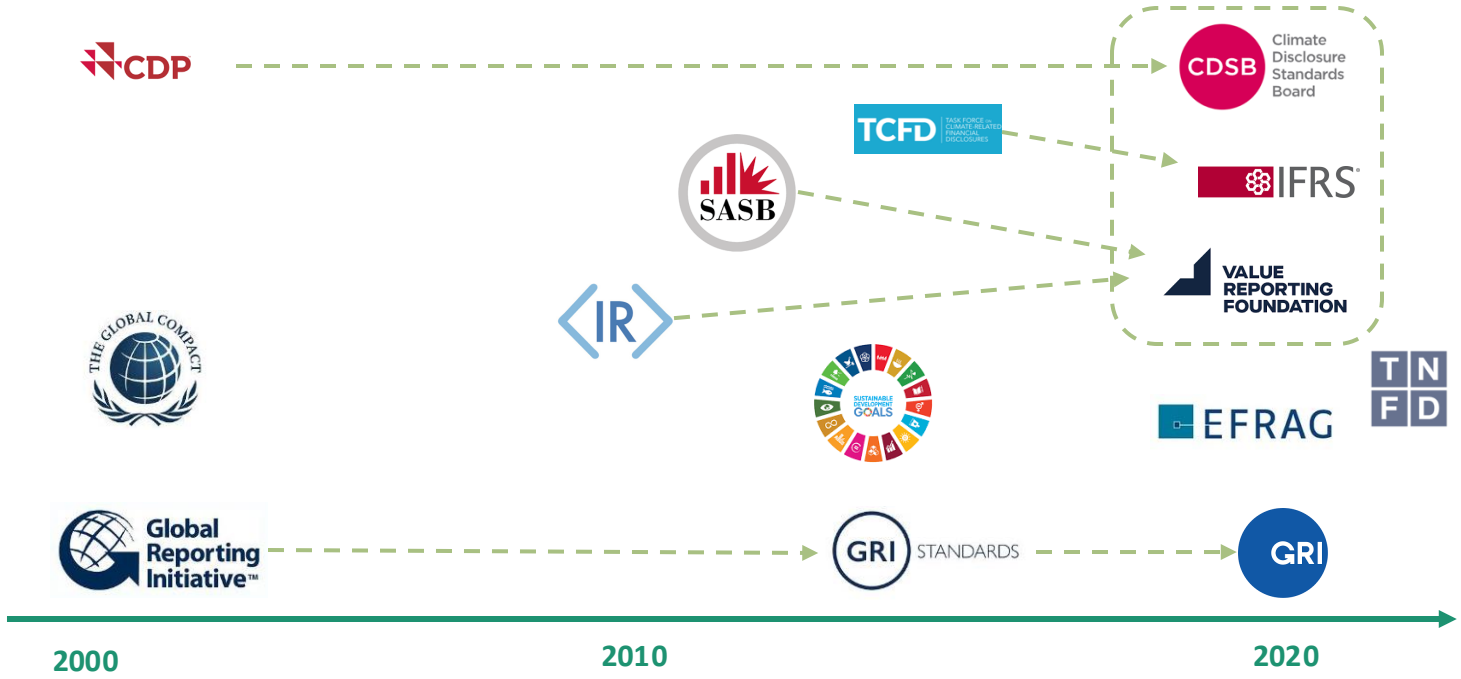
1. Create market structures favourable to investment.
   Telefónica supports consolidation within national markets as the first and main step to achieving sufficient scale to attract the necessary level of investment. Telefónica sees scaling in the market as the main tool for offering significant consumer welfare benefits, as it would encourage the growth of sustainable network actors capable of investing in the most advanced, secure and resilient networks.

2. Reduce obsolete and overly intrusive regulation.
   Telefónica's main stance is that regulation of the telecommunications market is obsolete and overly intrusive. Telefónica is in favour of a review of the current ex ante regulatory model to minimise this type of regulation, and base intervention on ex post action.

3. Balance the digital ecosystem.
   Telefónica supports a digital ecosystem based on commercial agreements reached through business negotiations. Given the dysfunction in the Internet value chain due to significant imbalances in bargaining

# Sustainability reporting frameworks

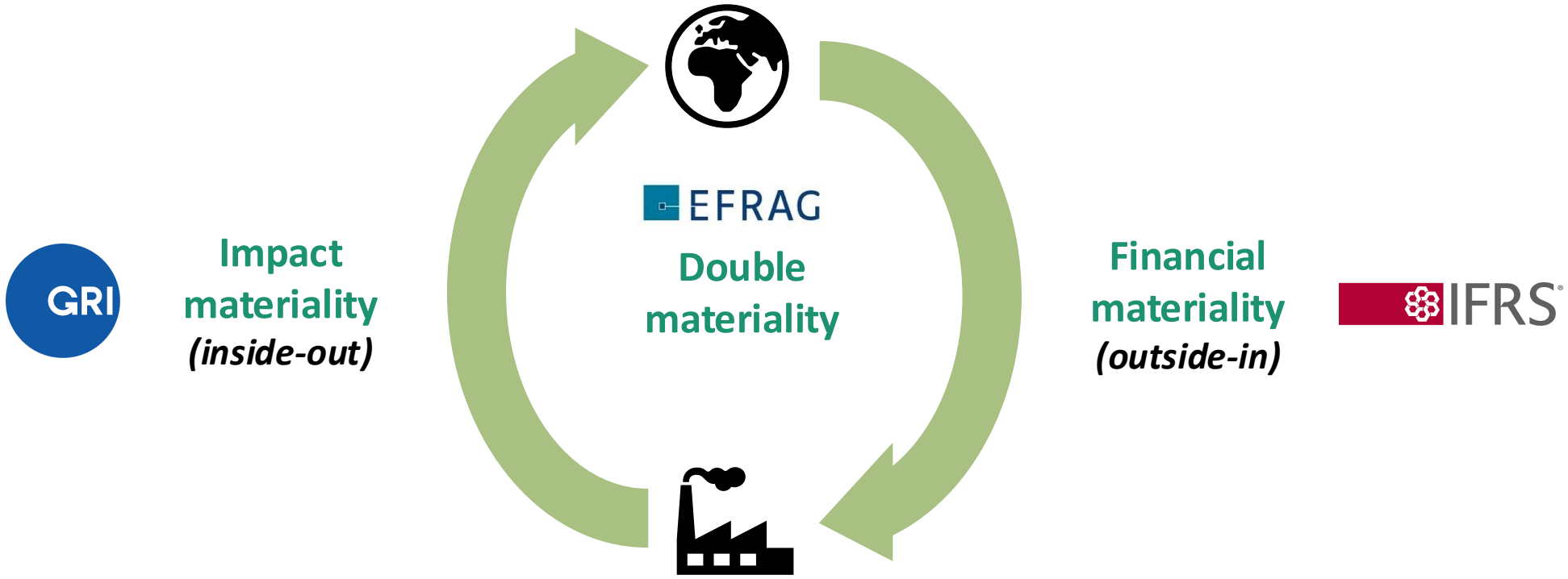
A set of **prescriptions** that seek to **help companies produce sustainability reports**. To do so, sustainability reporting frameworks provide guidance on how organisations should elaborate their sustainability information, define principles that must be applied, and propose disclosures and indicators to report on sustainability topics in sustainability reports..



# Materiality in sustainability reporting

A sustainability issue is considered **material** when it is likely to influence the **stakeholders' decision-making process**.

**Users** | **Purpose**



# Materiality assessment

The **materiality assessment** refers to the process that organisations follow to identify, prioritise and validate the sustainability topics that are considered material to be included in sustainability reports

**1. Understanding the context**

**2. Identification of actual/potential IROs**

1. Governance arrangements
2. Potential issues
3. Gathering evidence
4. Conducting the assessment
5. Validating the assessment
6. Taking action
7. Monitoring and update

**3. Assessment and determination of material IROs**

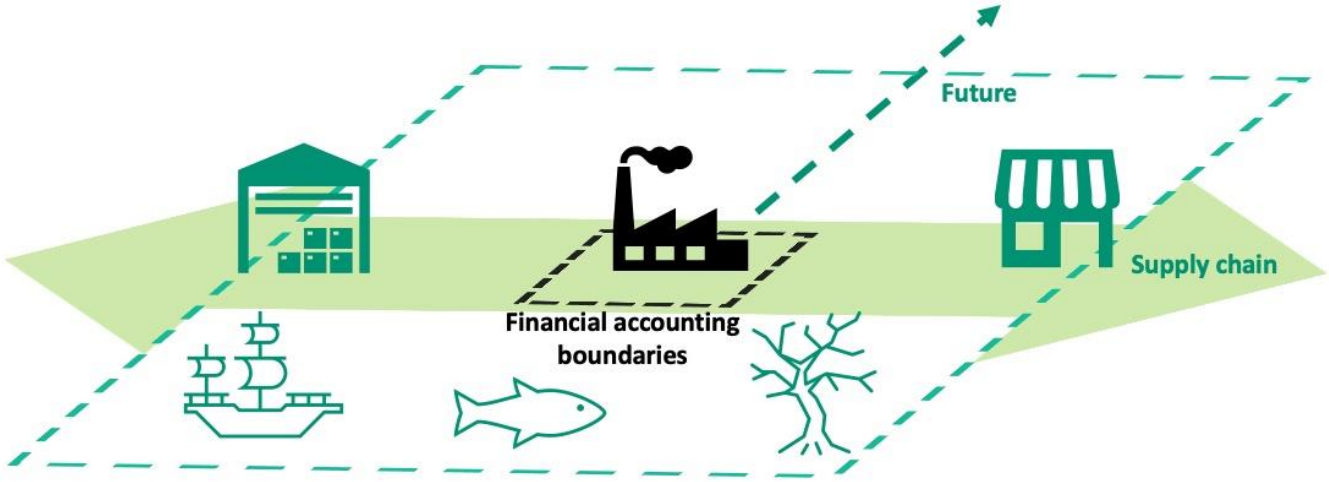
**4. Reporting**


Link

# Materiality assessment

## 1. Understanding the context

- Analyze the **competitive and regulatory environment** in which the company operates and its business model, as well as the relationships in its value chain.
- Identify the **scope (limits)** that will be taken into account when defining the information to be disclosed.
- Define the **time horizon** that will be taken into account when assessing materiality.



# Materiality

## 1. Understanding the context

### 2.3.1.1. Context analysis

The context analysis allows Telefónica to determine which topics must be taken into account when identifying and assessing impacts, risks and opportunities.

The first step is to take the list of topics, subtopics and sub-subtopics (sustainability issues) included in AR 16 of ESRS 1 and analyse the internal and external sustainability context that may affect the organisation and the context in which it operates.

Details of the sources and stakeholders considered at this stage are explained below:

#### Internal sources

- Telefónica's value chain: activities, resources and relationships involved in the Company's business model and the external context in which it operates, the products and services offered, regions and analysis of the agents and the nature of the Group's commercial relationships throughout the value chain.
- Telefónica's due diligence process on human rights and the environment.
- Report on Telefónica's Socio-economic Contribution.
- Report on Telefónica's impacts and dependencies on natural capital at a corporate level.
- Telefónica's Climate Action Plan 2024.
- Company strategy.
- Telefónica's risk management model and risk map.
- Other environmental reports.
- Telefónica's Materiality 2023.

#### External sources

- Global ESG regulatory context: analysis of international environmental, social and corporate governance standards.
- Industry peers: materiality matrices of comparable companies in Telefónica sector.
- Analysts and investors: expectations of the Company's investors and ESG rating analysts such as MSCI, Moody's, S&P and Sustainalytics.
- Sectoral reports: global, specific and emerging sustainability trends, challenges and risks.
- Sector standards: SASB sector materiality.

#### Stakeholders

The expectations of Telefónica's key stakeholder groups were analysed through an examination of the various types of channels and forms of engaging with them in order to identify the priority issues and their degree of involvement in the double materiality process. The process of identifying, prioritising and engaging with stakeholders is outlined in the following section of chapter 2.2. Strategy and business model:

2.2.4. Stakeholder management and relations

Furthermore, consultations were carried out with the different stakeholder groups (such as NGOs, public institutions, business partners and sector associations) under the scope of the due diligence process. Accordingly, interviews were conducted with both internal and external stakeholders in order to assess the adverse impacts of Telefónica's activity on the environment and human rights throughout its value chain. Among the topics addressed were those related to digital inclusion, the responsible use of new technologies, child protection, freedom of expression and information, privacy, cybersecurity, working conditions, health and safety, diversity and non-discrimination, climate change, circular economy, biodiversity and water resources.

The context analysis resulted in the determination and selection of the topics to consider when identifying and assessing IROs.

# Materiality assessment

**1. Understanding the context** → **2. Identification of potential IROs**

- Conduct a **comprehensive compilation of sustainability issues** (impacts, risks, and opportunities) that could be potentially material.
  - Use **different sources**:
    - Existing regulations on sustainability reporting or other related mandates (Unit 2.1) .
    - Sustainability reporting frameworks and standards.
    - Industry associations or other sector initiatives.
  - Characteristics of the **company's business model and strategy**.

# Materiality assessment

They are identified from the list of topics, subtopics and sub-subtopics selected during the previous stage. The areas of the Company responsible for the different matters within the organisation participated directly in this process, identifying, assessing and validating the different impacts.

In particular, when identifying the impacts, the following was considered:

IRO-1_03, IRO-1_04

- Whether these impacts occur as part of the Company's own operations or as a result of its business relationships. To determine this, account is taken of the activities within the value chain that generate impacts, the parties involved and the specific geographies for impacts with a local scope.

IRO-1_05

- Stakeholders who may be affected by these impacts.

## Positive impacts

IRO-1_14

The main source of information for identifying the positive impacts was Telefónica's Socio-economic Contribution Report.

The impacts were measured and monetised in accordance with guidelines provided by organisations such as:

- Harvard Business School (HBS).
- The Value Balancing Alliance (VBA).
- The World Business Council for Sustainable Development (WBCSD).
- The Capitals Coalition.

The Capitals Coalition, in collaboration with the VBA and the WBCSD, has published the report General Guidance on Applying the Natural Capital Management Accounting Methodology, which outlines the impact measurement process.

## Negative impacts

The starting point for the process of identifying the negative impacts was the Human Rights and Environmental Impact Assessment and an analysis of the 2023 Due Diligence Process. This allowed the impacts to be pre-identified with the expert knowledge of an independent third party and the perspective of management areas on various topics.

## Identification of risks and opportunities

The risks and opportunities stem from external sustainability events or conditions that could cause a negative effect, in terms of risks, or a positive effect for Telefónica's economic value, in terms of opportunities.

As with impacts, the identification of risks and opportunities includes the activities within Telefónica's value chain in which they occur and the actors that are involved.

## Risks

IRO-1_10

Given the nature of the business and its sustainability context, Telefónica is exposed to various types of ESG (environmental, social and governance) risks and opportunities. The risk management process takes the Company's strategy and targets as a reference point for identifying the main risks that could affect their achievement. The process includes sustainability-linked risks and aims to analyse, control and prevent potential business repercussions.

Therefore, ESG risks, just like the other financial, business, operational or legal and compliance risks, are part of Telefónica's Risk Management Model and are also identified, assessed and managed by the managers of the corresponding areas as part of the Telefónica Group's overall risk management process.

The identification of risks within the materiality process took into account those arising from a negative impact as well as those resulting from a dependence on human or environmental resources.

# Materiality assessment

| | Topic | Sub-topic | Sub-sub-topics |
|---|---|---|---|
| ESRS E1 | Climate change | —Climate change adaptation<br>—Climate change mitigation<br>—Energy | |
| ESRS E2 | Pollution | —Pollution of air<br>—Pollution of water<br>—Pollution of soil<br>—Pollution of living organisms and food resources<br>—Substances of concern<br>—Substances of very high concern<br>—Microplastics | |
| ESRS E3 | Water and marine resources | —Water<br>—Marine resources | —Water consumption<br>—Water withdrawals<br>—Water discharges<br>—Water discharges in the oceans<br>—Extraction and use of marine resources |

# Materiality assessment

1. **Understanding the context** → 2. **Identification of potential IROs** → 3. **Assessment of material IROs (Impact)**

| Impact | Severity | | | Likelihood |
|---|---|---|---|---|
| | Scale | Scope | Irremediable impact | |
| *Real negative* | X | X | X | |
| *Potential negative* | X | X | X | X |
| *Real positive* | X | X | | |
| *Potential positive* | X | X | | X |

- **Engagement with stakeholders**: obtain feedback from those stakeholders (internal/external) who could be affected by actual or potential impacts through surveys, workshops, or interviews.
- **Other sources of information** (silent stakeholders): experts, scientific studies, reports, etc.

# Materiality assessment

1. **Understanding the context** → 2. **Identification of potential IROs** → 3. **Assessment o material IROs (Impact)**

## Impact assessment

IRO-1_06

Once identified, the positive and negative impacts were assessed according to the following variables:

| | | |
|---|---|---|
| **Positive impacts** | **Potential** | If there is an economic valuation:<br>MAGNITUDE (Economic valuation + Scope + Scale), PROBABILITY (Likelihood of impact x Time horizon)<br><br>If there is no economic valuation:<br>MAGNITUDE (Scope + Scale), PROBABILITY (Likelihood of impact x Time horizon) |
| **Positive impacts** | **Actual** | If there is an economic valuation:<br>MAGNITUDE (Economic valuation + Scope + Scale)<br><br>If there is no economic valuation:<br>MAGNITUDE (Scope + Scale) |
| **Negative impacts** | **Potential** | SEVERITY (Scope + Scale + Remediability), PROBABILITY (Likelihood of impact x Time horizon)<br><br>*In the event that the impact affects human rights, a greater weight is assigned to the severity so that it prevails over probability* |
| **Negative impacts** | **Actual** | SEVERITY (Scope + Scale + Remediability) |

## Definition of the variables considered in the assessment

The magnitude comprises the scale, scope and economic valuation (if applicable). The probability is the likelihood of the impact multiplied by the time horizon of the potential impact.

- Scale: the level of importance attributed to each impact by affected stakeholders. This information is derived from consultations and studies conducted via the Company's different engagement channels. For more details, see:
  2.2.4. Stakeholder management and relations
- Scope: extent of the impact (global, regional, national, local or specific).
- Economic valuation: for positive impacts only; the quantified and monetised economic impact on affected individuals and resources.
- Irremediability: for negative impacts only; the degree of difficulty involved in counteracting or correcting the damage caused. It is weighted based on whether action is needed to mitigate the impact or whether it is irreparable.
- Impact probability: likelihood of the impact occurring. Qualitative information is used to assess and justify this variable.
- Time horizon: when the impact is most likely to materialise (short-, medium- and long-term).

# Materiality assessment

1. **Understanding the context** → 2. **Identification of potentia IROs** → 3. **Assessment of material IROs (Impact)**

| **Illustration** | Severity assessment | | | Is the impact assessed as material? |
|---|---|---|---|---|
| Negative impact | Scale | Scope | Irremediability | |
| Impact 1 | | | | No |
| Impact 2 | | | | Yes |
| Impact 3 | | | | Yes |
| ... | | | | |
| Impact N | | | | Yes |

| Colour coding: | | | | |
|---|---|---|---|---|
| Low | | Medium | | High |

**Source:** EFRAG G1 Materiality Assessment

# Materiality assessment

1. **Understanding the context** → 2. **Identification of potential IROs** → 3. **Assessment of material IROs (Financial)**

- **Review the initial list** of sustainability issues to identify which ones **represent risks, opportunities, or financial dependencies** for the business.
- They are evaluated based on the **magnitude** of their short-, medium-, and long-term financial effect, as well as their **probability** of occurrence.
- **Obtaining evidence:** company departments, investors and other capital providers, internal stakeholders, top governing bodies, risk management system (if any)
- **Determine threshold** (quantitative, based on cash flows and capital): consider issues that are financially material for inclusion in the report (validated by the top governing body).

# Materiality as

1. **Understanding the context**

2.

## Impact assessment

IRO-1_06

Once identified, the positive and negative impacts were assessed according to the following variables:

| | | |
|---|---|---|
| **Positive impacts** | **Potential** | If there is an economic valuation:<br>MAGNITUDE (Economic valuation + Scope + Scale), PROBABILITY (Likelihood of impact x Time horizon)<br><br>If there is no economic valuation:<br>MAGNITUDE (Scope + Scale), PROBABILITY (Likelihood of impact x Time horizon) |
| **Positive impacts** | **Actual** | If there is an economic valuation:<br>MAGNITUDE (Economic valuation + Scope + Scale)<br><br>If there is no economic valuation:<br>MAGNITUDE (Scope + Scale) |
| **Negative impacts** | **Potential** | SEVERITY (Scope + Scale + Remediability), PROBABILITY (Likelihood of impact x Time horizon)<br><br>*In the event that the impact affects human rights, a greater weight is assigned to the severity so that it prevails over probability* |
| **Negative impacts** | **Actual** | SEVERITY (Scope + Scale + Remediability) |

## Assessment of risks and opportunities

The risk assessment took into account the parameters used within Telefónica's global risk process.

The opportunity assessment used a proprietary methodology developed by Telefónica's strategy team. Under this methodology, a benchmark monetary performance indicator is defined and different scenarios are proposed to estimate the economic value of the opportunity. Various Telefónica reports such as the Climate Action Plan, the sustainable financing plans and the Strategic Plan were used as sources for the assessment.

IRO-1_09

The metrics used in the assessment followed the below framework:

## Definition of the variables considered in the assessment

The magnitude comprises the scale, scope and economic valuation (if applicable). The probability is the likelihood of the impact multiplied by the time horizon of the potential impact.

- Scale: the level of importance attributed to each impact by affected stakeholders. This information is derived from consultations and studies conducted via the Company's different engagement channels. For more details, see:
  2.2.4. Stakeholder management and relations
- Scope: extent of the impact (global, regional, national, local or specific).
- Economic valuation: for positive impacts only; the quantified and monetised economic impact on affected individuals and resources.
- Irremediability: for negative impacts only; the degree of difficulty involved in counteracting or correcting the damage caused. It is weighted based on whether action is needed to mitigate the impact or whether it is irreparable.
- Impact probability: likelihood of the impact occurring. Qualitative information is used to assess and justify this variable.
- Time horizon: when the impact is most likely to materialise (short-, medium- and long-term).

# Materiality assessment

1. **Understanding the context** → 2. **Identification of potential IROs** → 3. **Assessment of material IROs (Double)**

- **Consolidate** the results of **previous analyses (impact and financial)** and obtain a list of impacts, risks, opportunities, and material dependencies.
- **Avoid duplication.**
- **Determine thresholds** (quantitative/qualitative): consider the issues that are most relevant.
- It must be **validated** by the company's highest governing body.

# Materiality assessment

**1. Understanding the context** → **2. Identi poter**

Lastly, following analysis and standardisation, a uniform threshold for impact and financial materiality was set at two on a scale from one to five.

As a result of the establishment of this threshold, the material sustainability standards (ESRS) and topics for the Group in the 2024 financial year are as follows:

**ESRS thematic and material sustainability issues for Telefónica**

**ESRS E1 - Climate Change**

- **Climate change adaptation**
- **Climate change mitigation**
- **Energy**

**ESRS E5 - Resource use and circular economy**

- **Resource inputs, including resource use**
- **Resource outflows related to products and services (including waste)**

**ESRS S1 – Own workforce**

- **Working conditions**
  - Secure employment
  - Working time
  - Adequate wages
  - Social dialogue
  - Freedom of association
  - Collective bargaining
  - Work-life balance
  - Health and safety
- **Equal treatment and opportunities for all**
  - Training and skills development
  - Gender equality and equal pay for work of equal value
  - Diversity
  - Measures against violence and harassment in the workplace
- **Other work-related rights**
  - Privacy

**ESRS S2 – Workers in the value chain**

- **Working conditions**
  - Secure employment
  - Working time
  - Adequate wages
  - Freedom of association
  - Collective bargaining
  - Work-life balance
  - Health and safety
- **Other work-related rights**
  - Privacy

**ESRS S4 – Consumers and end-users**

- **Impacts related to information for consumers or end-users**
  - Privacy
- **Inclusion of consumers or end-users**
  - Access to products and services

**ESRS G1 – Business conduct**

- **Corporate culture**
- **Political engagement and lobbying activities**
- **Management of relationships with suppliers**
- **Corruption and bribery**
  - Prevention and detection, including training
  - Incidents
- **Network and data security**[1]
  - Cybersecurity
  - Operational security

# Materiality assessment

1. **Understanding the context** → 2. **Identification of potentia IROs** → 3. **Assessment of material IROs** → 4. **Reporting**

- The list of material topics determines the **issues that must be covered** in the sustainability report.
- Identify the specific **indicators and disclosures** needed to adequately report on material issues: consult the suggested topics in the various existing **frameworks and standards** for preparing sustainability information.
- **Report on the process** followed to assess materiality.
- **Monitor and periodically update** the materiality assessment to ensure that it adapts to changes in the internal and external factors of the context in which you operate, as well as to changes in the needs of your stakeholders.

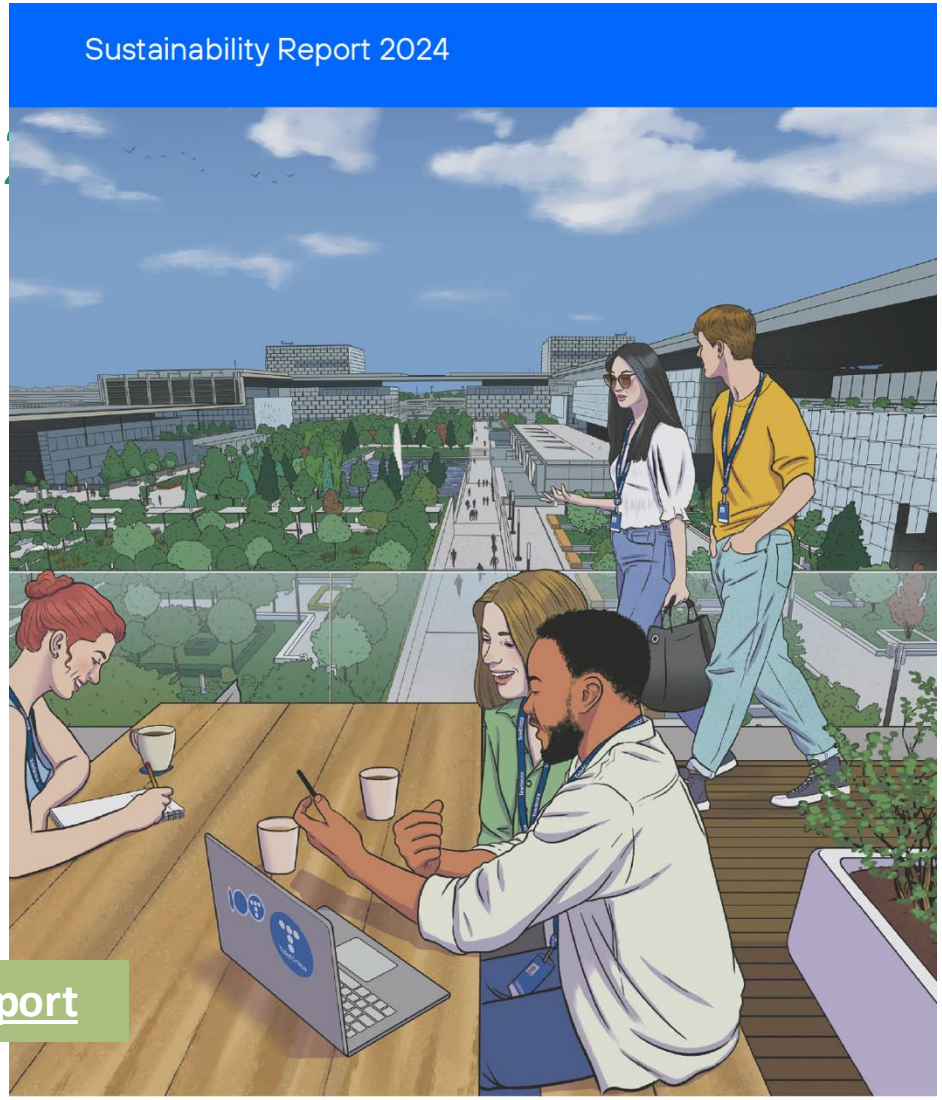
# Mater

## 1. Understan context

| Disclosure requirement and related datapoint | Location in the Sustainability Report |
|---|---|
| ESRS 2 GOV-1<br>Board's gender diversity, paragraph 21 (d) | 2.4.2.1. Composition and diversity of the Board of Directors and its Committees |
| ESRS 2 GOV-1<br>Percentage of board members who are independent, paragraph 21 (e) | |
| ESRS 2 GOV-4<br>Statement on due diligence, paragraph 30 | 2.5. Due diligence |
| ESRS E1-1<br>Transition plan to reach climate neutrality by 2050, paragraph 14 | 2.9.2. Strategy |
| ESRS E1-1<br>Undertakings excluded from Paris-aligned benchmarks, paragraph 16 (g) | |
| ESRS E1-4<br>GHG emissions reduction targets, paragraph 34 | 2.9.4.1. Targets related to the management of material IROs |
| ESRS E1-5<br>Energy consumption and mix, paragraph 37 | 2.9.4.2. Energy |
| ESRS E1-6<br>Gross Scope 1, 2, 3 and total GHG emissions, paragraph 44 | 2.9.4.3. GHG emissions |
| ESRS E1-6<br>Gross GHG emissions intensity, paragraphs 53 to 55 | |
| ESRS E1-7<br>GHG removals and carbon credits, paragraph 56 | 2.9.4.3. GHG emissions: Carbon credits |
| ESRS E1-9<br>Exposure of the benchmark portfolio to climate-related physical risks, paragraph 66 | The Company is relying on transitional provision 10.4 of ESRS 1: List of Disclosure Requirements that are phased-in |
| ESRS E1-9<br>Disaggregation of monetary amounts by acute and chronic physical risk, paragraph 66 (a)<br>ESRS E1-9<br>Location of significant assets at material physical risk, paragraph 66 (c). | |
| ESRS E1-9<br>Breakdown of the carrying value of its real estate assets by energy-efficiency classes, paragraph 67 (c). | |
| ESRS E1-9<br>Degree of exposure of the portfolio to climate-related opportunities, paragraph 69 | |
| ESRS E5-5<br>Non-recycled waste, paragraph 37 (d) | 2.10.2.3. Waste |
| ESRS E5-5<br>Hazardous waste and radioactive waste, paragraph 39 | |

# Materiality assessment

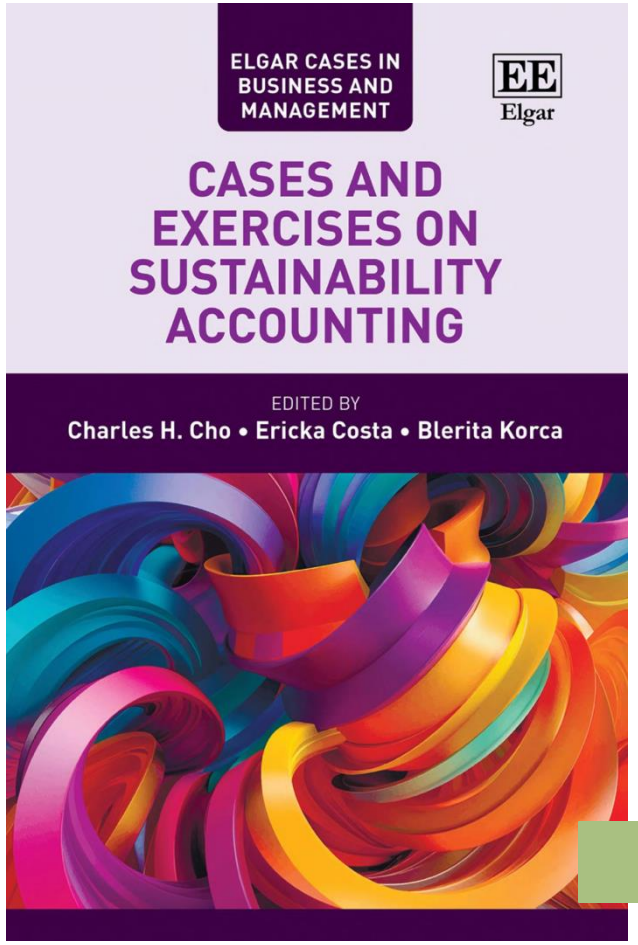
1. **Understanding the context**




4. **Reporting**

**Link to report**

# Group activity
# Materiality assessment in the beauty industry

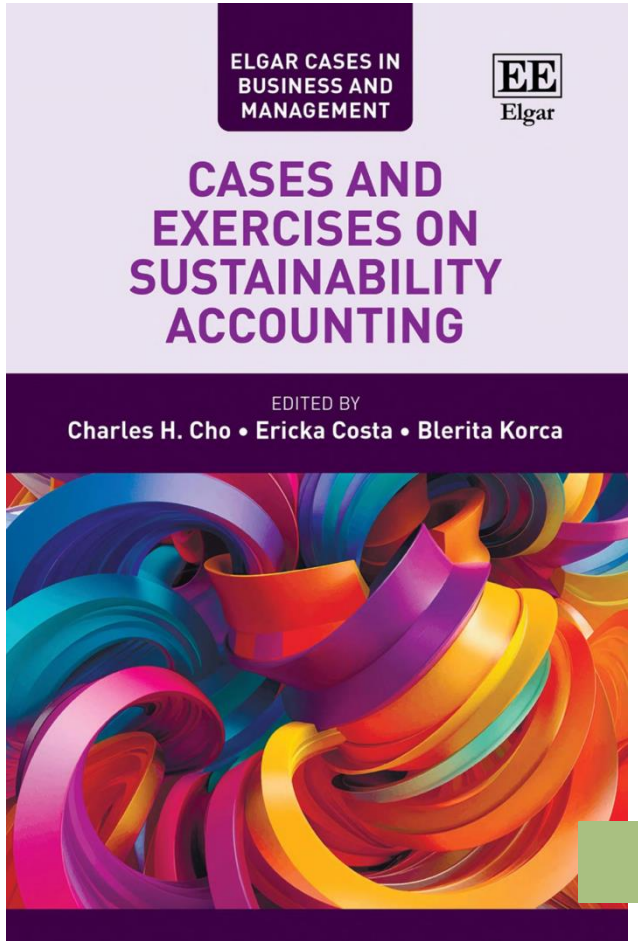



**Chapter 13**

*by Lies* ***Bouten****, Stuart* ***Cooper*** *and Giovanna* ***Michelon***

Link to book

# Group activity
# The context



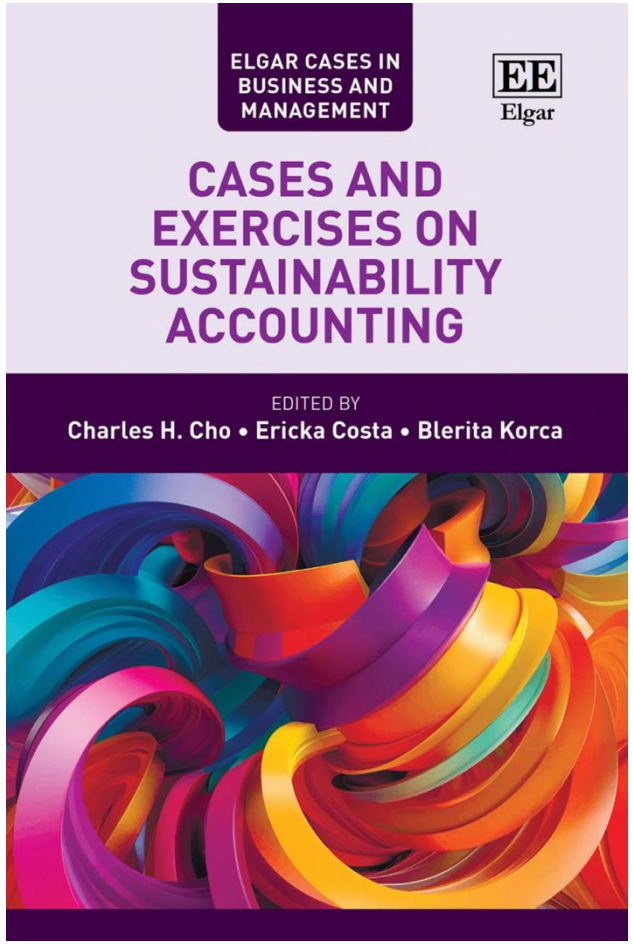

**Chapter 13**

*by Lies **Bouten**, Stuart **Cooper** and Giovanna **Michelon***

- **Sustainability/finance team** at ÉclatCare.
- **Information about the company**: products, market, location, sustainability goals, etc.
- **Materiality assessment** to identify relevant topics that the firms should cover in its sustainability report.

Link to book

# Group activity Part 1



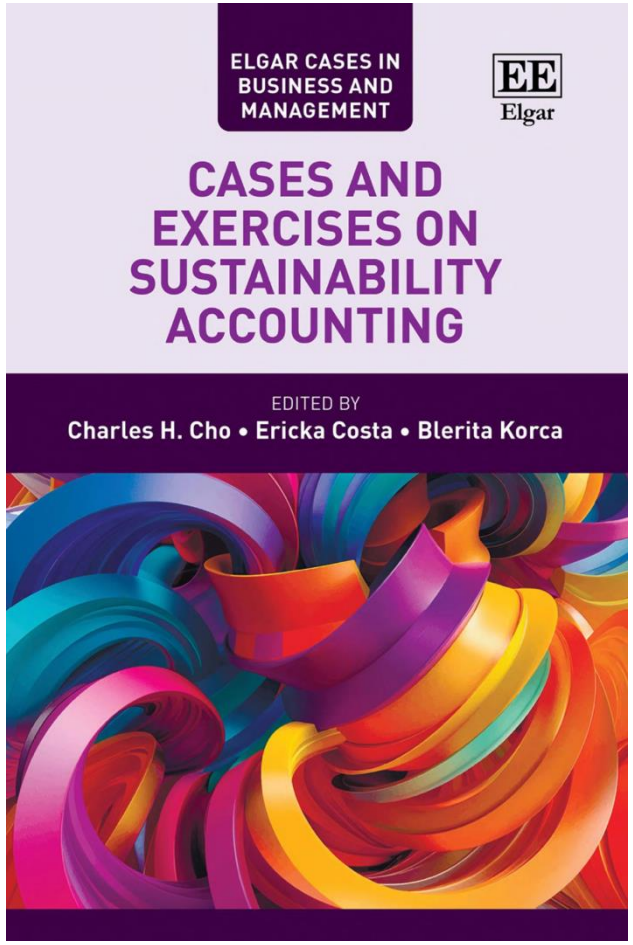

**Chapter 13**

*by Lies **Bouten**, Stuart **Cooper** and Giovanna **Michelon***

- Reflect on the **impact materiality/financial** materiality of the following topics.
  - Creating equal opportunities for women
  - GHG (greenhouse gas) emissions
  - Water & product usage
  - Sustainable supply chain/responsible sourcing
  - Health and safety of one's own workforce
  - Affected communities
- Would you judge the financial/impact materiality of the topic as: very low, low, moderate, high, or very high (over the short, medium or long run)? Why?

**45 minutes**

# Group activity Part 1

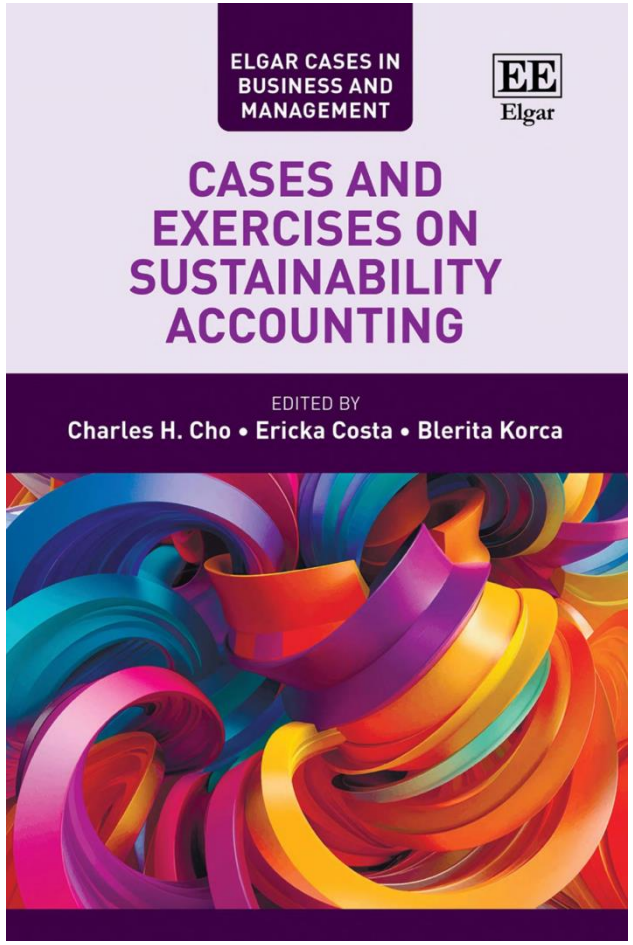



## Chapter 13

*by Lies **Bouten**, Stuart **Cooper** and Giovanna **Michelon***

- As far as possible, make sure to justify your assessment (i.e. try to come up with evidence for your materiality judgements).
- You can integrate the information in the webpages mentioned throughout the case and/or additional information sources at your judgement.
- For including the survey results, think about which stakeholders' views would be more important for financial materiality. Which for impact?
- How would you set generic thresholds for judging a specific topic on a materiality scale, so that you end up with a decision-making system that can be applied to all topics?

# Group activity Part 2




## Chapter 13

*by Lies **Bouten**, Stuart **Cooper** and Giovanna **Michelon***

- Activity 2. Prepare a **presentation of 4-5 minutes**
  - Describing the results of your materiality assessment (A and C – Impact, B and D – Financial).
  - Indicating the key challenges you have encountered
  - Propose ideas on how to improve your assessment in future reporting periods

**15 minutes**

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# Sustainability reporting regulation

## Teaching Activity 3

*Burgos, August 31 – September 4, 2025*

**Juliette Senn**

UNIVERSIDAD DE BURGOS

Centre for Sustainability Management

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Financial materiality

# ESG ≠ sustainability

Investment and risk focus

A framework for assessing the **financial risks** and **opportunities** related to environmental and social factors

Broader concept based on a **'safe operating space'** for society, including issues like climate change, inequality, and nature

The concepts are distinct but related: biodiversity protection vs. financial risk from biodiversity loss

# Mandatory vs voluntary reporting

## Voluntary reporting

Disclosing information, usually via yearly reports, to comply with outside pressure to follow socially accepted norms, sometimes without taking concrete actions

There is evidence that data often needs more thorough information, making it inadequate

## Mandatory reporting

Companies following the laws set by regulators (Lozzelli & Velasco, 2023)

The regulation was anticipated by countries like France, Spain, Sweden, and Denmark

EU regulations require **large and publicly traded companies** to report periodically on their sustainability risks and impacts, to ensure that they **provide clear and consistent information,** but also, to **help investors, civil society, and other stakeholders assess their sustainability performance**

# Mandatory vs voluntary reporting

There has been a long-standing debate, and it is still discussed **whether companies should control these disclosures themselves** or **if larger institutions should regulate them**


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The production of normativity: A comparison of reporting regimes in Spain and the UK

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[b] School of Law, University of Dundee, Dundee DD1 4HN, Scotland, United Kingdom
[c] Departamento de Economía y Administración de Empresas, Universidad de Burgos, Plaza Infanta Elena, s/n, 09001 Burgos, Spain

A comparison between Spain and the UK shows that a mandatory law (Spain) can be less effective than a voluntary standard (UK) when certain conditions are missing, such as clear rules or alignment with previous norms

1. Should regulations require specific ways to provide information?

2. Or, should we allow organizations to imagine and innovate, without a fixed model, so that they could find new ways to report information and better address the complexity of sustainability?

# The multiverse of sustainability reporting

**NFRD**
Non-Financial Reporting Directive

**CSRD**
Corporate Sustainability Reporting Directive

**ESRS**
European Sustainability Reporting Standards

Double materiality

**EFRAG**
European Financial Reporting Advisory Group

**SASB**
Sustainability Accounting Standards Board

**CDSB**
Climate Disclosure Standards Board

**ISSB (IFRS)**
International Sustainability Standards Board

Financial materiality

# EU sustainability reporting directives

## 1. The NFRD

Implemented in 2014 → the objective was to enhance the **relevance, consistency, and comparability of information**

### Which organisations?

Mandated **large firms** (including parent companies of groups) that are considered **public interest entities (PIEs)** and have an average **of over 500 employees** (on a consolidated basis for groups)

### What information?

The **progress, achievements, status, and consequences of corporate activities** related to, at minimum, the following topics: the environment, social and employee affairs, human rights, corruption, and bribery

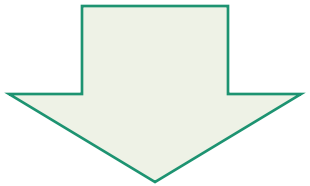
A little over **10,000 companies**, with headquarters located in one of the EU member states

# EU sustainability reporting directives

## 1. The NFRD

**Uneven transposition in the European Union**

**Heterogeneity of the information disclosed**



Lack of precise standards and multiplicity of frameworks

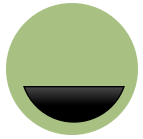
Different levels of requirements regarding content or mandatory auditing

Lack of an adequate definition of materiality

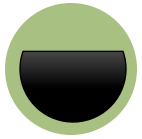
# EU sustainability reporting directives

## 2. The CSRD

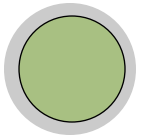
In 2021, The European Commission proposed the **development of a new directive to overcome these shortcomings**



Develop an **international framework** and make the **verification of information** mandatory



Enhance **comparability** and promote **harmonization**



Establish a standardized, **common language**



**European Sustainability Reporting Standards (ESRS)**

**EFRAG**  **GRI**

EFRAG wanted "***to benefit from long-standing pioneers and avoid reinventing the wheel***" (EFRAG, 2021, p. 1)(EFRAG, 2021, p. 1)

# From NFRD to CSRD: main changes

- The **expansion of the companies** falling within the scope → **around 50,000 companies**
- An explanation of the company's **business model and strategy**, specifically about sustainability concerns
- **Relevant indicators** on sustainability impacts, risks and opportunities
- The **enlargement of the reporting obligations** pertaining to a company's value chain
- Application of the **double materiality** concept to produce sustainability information
- The obligation to follow the **ESRS** as reporting framework to produce sustainability information
- **Mandatory assurance** of the reported information by a third-independent professional party
- The **digital tagging** of the reported information

# The ESRS

### Project initiation

EFRAG creates a **Project Task Force to** develop potential EU non-financial reporting standards

### Governance

**Sustainability Reporting Board (SRB)** established → oversees all sustainability reporting matters, advises the EU and **includes stakeholders from EU, national bodies, and civil society**

### Due process framework

June 2021 → **public consultation** on EU sustainability reporting requirements

March 2022 → **General Assembly approves final due process**, defining concepts & supervision

### Draft & consultation

April 2022 → **preliminary ESRS released**; public consultation until August 2022

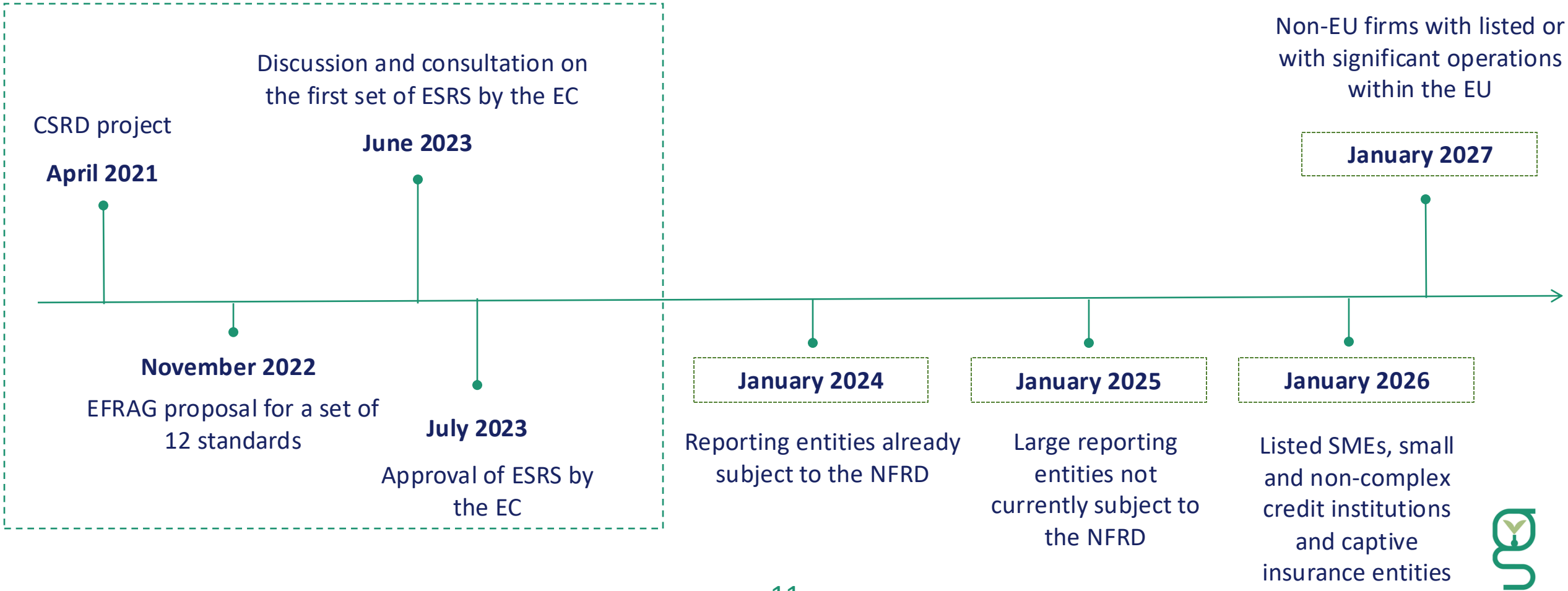
### Approval & adoption

Nov 2022 → **SRB approves first ESRS set**, sends to European Commission

2-month EU Parliament / Council examination period

July 2023 → **European Commission formally adopts ESRS**

All (listed or non-listed) large companies (two of three criteria met):
> 250 employees and/or
> €40M Turnover and/or
> €20M Total Assets
**Small and medium listed companies get an extra 3 years to comply**



# The ESRS

**Cross-cutting standards**

**ESRS 2**
**General Disclosures (16 DR)**

- **Governance**
- **Strategy**
- **Impact, risk and opportunity management**
- **Metrics and targets**

**ESRS 1**
**General Principles (0 DR)**

**Topical standards**

| ESRS E1- Climate change (9 DR) | ESRS S1 - Own workforce (17 DR) | ESRS G1 - Business conduct (6 DR) |
|---|---|---|
| ESRS E2 - Pollution (6 DR) | ESRS S2 - Workers in the value chain (5 DR) | |
| ESRS E3 – Water and marine resources (5 DR) | ESRS S3 - Affected communities (5 DR) | |
| ESRS E4 – Biodiversity and ecosystems (6 DR) | ESRS S4 - Consumers and end-users (5 DR) | |
| ESRS E5 - Resource use and circular economy (6 DR) | | |
| **Total Environement 32** | **Total Social 32** | **Total Governance 6** |

**Sector-specific standards in preparation**

# ESRS-E1 climate change

## Governance

- **Disclosure requirement related to ESRS 2 GOV-3:** Integration of sustainability-related performance in incentive schemes

## Strategy

- **E1-1:** Transition plan for climate change mitigation
- **Disclosure requirement related to ESRS 2 SBM-3:** Material impacts, risks and opportunities and their interaction with strategy and business model(s)

## Metrics & targets

- **E1-4:** Targets related to climate change mitigation and adaptation
- **E1-5:** Energy consumption and mix (incl. intensity)
- **E1-6:** Gross scopes 1, 2, 3 and total GHG emissions (incl. intensity)
- **E1-7:** GHG removals and GHG mitigation projects financed through carbon credits
- **E1-8**: Internal carbon pricing
- **E1-9:** Potential financial effects from material physical risks, material transition risks and climate-related opportunities

## IRO management

- **Disclosure requirement related to ESRS 2 IRO-1:** Description of the processes to identify and assess material climate-related impacts, risks and opportunities
- E1-2: Policies related to climate change mitigation and adaptation
- E1-3: Action plans and resources in relation to climate change policies and targets

# The interoperability of the ESRS

## Three key global baseline sustainability reporting standards : **GRI, ISSB** and the **ESRS**

- Companies are required to report on specific metrics and obligations **under each standard**, which creates **confusion** both for firms and for readers trying to make sense of the reports

## A need for **interoperability**, by creating compatibility and harmonisation between the three standards

- Interoperability between **the ESRS and the ISSB**
- Interoperability between **the ESRS and the GRI**

# The interoperability of the ESRS

## Interoperability ESRS – ISSB

Climate reporting → both require disclosure of GHG emissions, climate risks, and transition plans

They try to avoid duplicates, but there are still differences:

- **ISSB** allows "net" targets with carbon credits
- **ESRS** only accepts gross reduction targets (carbon credits can be mentioned, but not used to lower the target)

Regulators are working on **"bridging guidance"** to help companies prepare both versions from a single report

## Interoperability ESRS – GRI

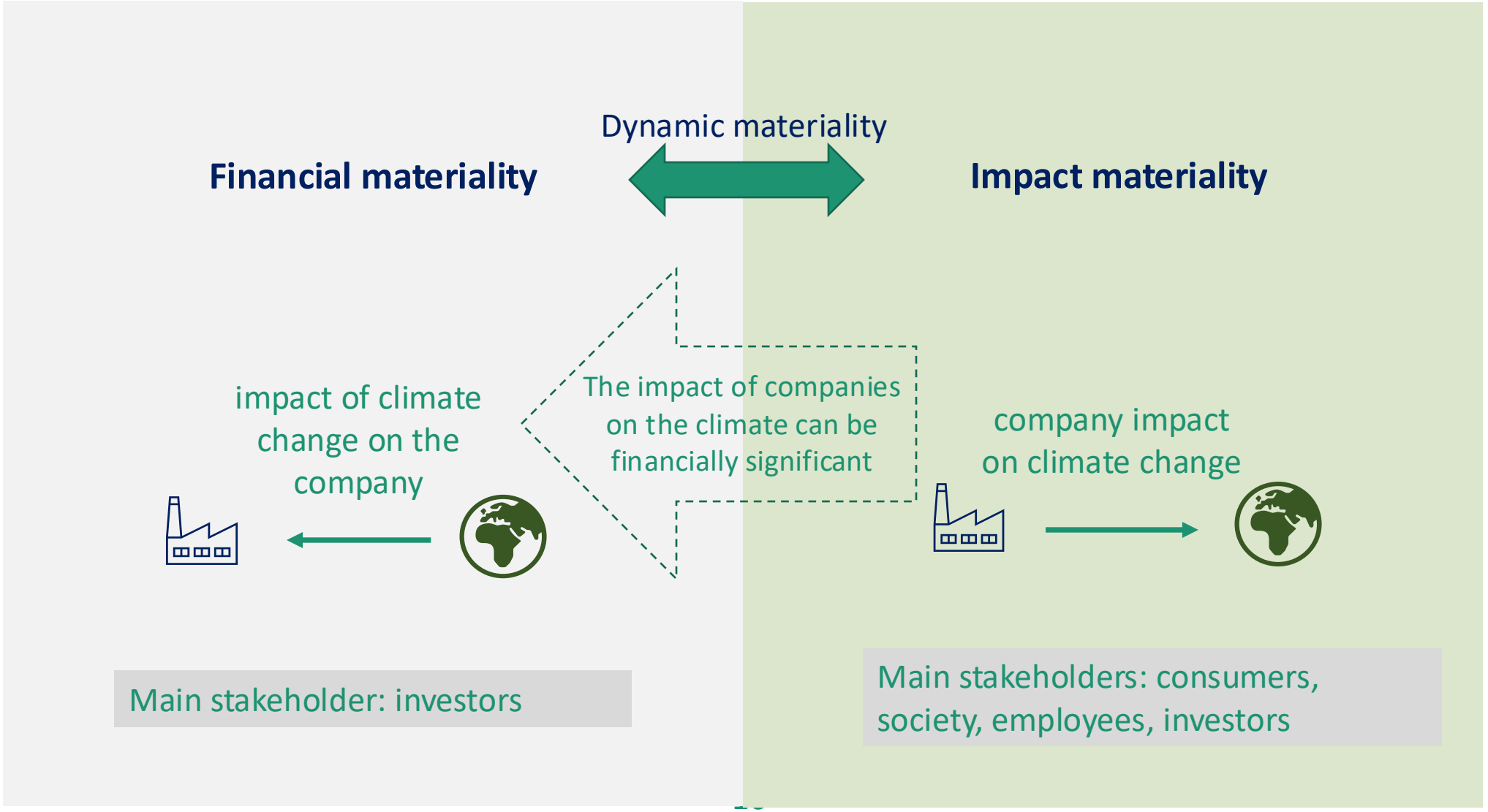
A Memorandum of Understanding (MoU) to align both standards and support companies in their reporting

High interoperability → especially on **impact materiality**; supported by an Interoperability Index mapping common disclosures

- **ESRS reporters** can be **considered as reporting "with reference" to GRI Standards**
- GRI-specific requirements not in ESRS can be **added as entity-specific disclosures**

Next step → **creation of a digital correspondence table** (ESRS ↔ GRI taxonomies) **to simplify reporting**

# Double materiality



# Assurance

The CSRD obliged companies to have their sustainability information **assured by a third-independent part**

- The assurance service must be provided by **a professional** that meets specific criteria in terms of **knowledge, experience, training, independence**, etc.

> Auditors are the primary providers of sustainability assurance and can therefore fulfill the role previously performed by independent third parties at the company's request

- **Limited assurance** (i.e. checking specific information to see whether there are material errors) during the first years of the CSRD
- By 2028, the assurance requirements will increase as there will be a shift towards **reasonable assurance** (i.e. checking that the information has been adequately reported when compared to suitable criteria)

# EU taxonomy: what matters

A **classification system** (adopted in June 2020 as part of the European Green Deal) to define **which economic activities are environmentally sustainable**

- Companies under **NFRD (now CSRD)** must report how their activities align with the Taxonomy

| | | | |
|---|---|---|---|
| **Drive transition** to climate-neutral economy by 2050 | **Prevent greenwashing** with science-based criteria | **Facilitate investment** in green activities | Provide **clarity** – common language on what counts as "sustainable" |

# EU taxonomy: what matters

Climate change mitigation — Climate change adaptation — Circular economy — Pollution prevention & control — Sustainable use of water & marine resources — Protection of biodiversity & ecosystems →

**Non-eligible activity**

Economic activity that the EU deems **incapable of significantly contributing** to an environmental objective

**Eligible activity**

Activity that EU **deems capable of significantly contributing** to at least one environmental objective

**Aligned activities**

1. A ***substantial contribution*** to at least one environmental objective
2. It does ***no significant harm*** to the other objectives
3. It respects ***basic social safeguards*** (like OECD and UN human rights guidelines)

**Non-aligned activities**

# EU taxonomy: what matters

Disclosure of **3 Key Performance Indicators (KPIs)**

**OpEx**
% of operating costs linked to sustainable activities
These KPIs must be shown separately for **eligible** vs **aligned** activities

**Turnover**
% of revenue from sustainable activities

**CapEx**
% of investment in sustainable assets/projects

# Group work

1. Small group work - *2–3 key points to set the context for the debate*
   - How sustainability reporting regulations (NFRD, CSRD) are implemented in your countries?

25 min

**Look for: current state of sustainability reporting in your country, how NFRD and CSRD were transposed locally, key differences between countries, other sustainability standards, voluntary vs mandatory aspects**

2. Debate to argue and counterargue: regulation vs voluntary disclosures
   - Each group will be assigned a specific perspective (pro-regulation vs pro-voluntary)
   - Each group should build a case of why that perspective is more reasonable vs the alternative perspective

45 min

# Guiding questions and ideas

- What factors would influence your position as a company?
- Would regulation be a burden or provide clarity and credibility?
- Would voluntary reporting allow more flexibility or innovation?
- What is the EU trying to achieve with mandatory disclosure? Could mandatory reporting be more effective in meeting these goals than voluntary reporting?
- Consider comparability and the challenges of mandatory regulation
- Could market incentives, ratings, voluntary codes, or stakeholder pressure achieve similar results?
- Will the chosen approach actually improve decision-making by investors and other stakeholders?

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ACCOUNT Green Eco

# Social & Environmental Impact Measurement

## Teaching Activity 3

*Burgos, August 31 – September 4, 2025*

**Ericka Costa, University of Trento**

UNIVERSIDAD DE BURGOS · Centre for Sustainability Management LEUPHANA · MBS MONTPELLIER BUSINESS SCHOOL · gestionet · UNIVERSITÀ DI TRENTO

## How we will distribute our time together

**1 hour of lecture**

- SDGs and Organisational Impacts
- Social and environmental impact
  - Impact Value Chain
  - Theory of Change (ToC)
  - Contingency Framework
- Social and environmental impact measurement
  - Key Issues in Impact Measurement
  - Categorising Social and Environmental Impact Measurement Methods
  - A Stakeholder-Centric Approach
  - The Importance of KPIs

**1.5 hours of working activity**

- 60 mins to work in groups
  - 45 mins discussions
  - 15 ppt preparation
- 20 mins for presentations (5 mins each group)
- 10 mins final wrap up

# Sustainability Development Goals And Organisational Impacts

UNIVERSIDAD DE BURGOS · Centre for Sustainability Management LEUPHANA · MBS Montpellier Business School · gestionet · UNIVERSITÀ DI TRENTO

## The Emergence of the Sustainable Development Goals (SDGs)

# The Emergence of the Sustainable Development Goals (SDGs)

- The **17 Sustainable Development Goals (SDGs)** are a set of interrelated social, environmental, and governance goals adopted by the United Nations (UN).
- They are at the core of the **2030 Agenda for Sustainable Development**, a global call to action for all countries to work together.
- The SDGs aim to fight poverty, protect the planet, and foster justice, peace, and prosperity.
- They guide policymakers, governments, non-governmental organizations (NGOs), and private sector companies.

5

# SDGs' Content, Targets, and Indicators for Impact

- The **17 Sustainable Development Goals (SDGs)** serve as a global framework to address critical challenges such as poverty, gender inequality, and environmental conservation.
- To achieve these goals, it is essential to identify and manage the **social and environmental impacts at all levels** (local, regional, and national).
- The **Global Indicator Framework** for the SDGs provides specific indicators to measure progress. This framework is complemented by regional and national indicators developed by individual countries.

6

# SDGs' Indicators for Impact

| SDG | Impact indicator example |
|---|---|
| 1. No Poverty | 1.2.1 Proportion of population living below the national poverty line, by sex and age |
| 2. Zero Hunger | 2.4.1 Proportion of agricultural area under productive and sustainable agriculture |
| 3. Good Health and Well-being | 3.4.1 Mortality rate attributed to cardiovascular disease, cancer, diabetes, or chronic respiratory disease |
| 4. Quality education | 4.4.1 Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill |
| 5. Gender equality | 5.6.1 Proportion of women aged 15–49 years who make their own informed decisions regarding sexual relations, contraceptive use, and reproductive health care |
| 6. Clean Water and Sanitation | 6.3.1 Proportion of domestic and industrial wastewater flows safely treated |
| 7. Affordable and Clean Energy | 7.2.1 Renewable energy share in the total final energy consumption |

7

# SDGs' Indicators for Impact

| SDG | Impact indicator example |
|---|---|
| 8. Decent Work and Economic Growth | 8.6.1 Proportion of youth (aged 15–24 years) not in education, employment, or training |
| 9. Industry, Innovation, and Infrastructure | 9.c.1 Proportion of population covered by a mobile network, by technology |
| 10. Reduced Inequality | 10.2.1 Proportion of people living below 50 per cent of median income, by sex, age, and persons with disabilities |
| 11. Sustainable Cities and Communities | 11.7.2 Proportion of persons victim of physical or sexual harassment, by sex, age, disability status and place of occurrence, in the previous 12 months |
| 12. Responsible Consumption and Production | 12.5.1 National recycling rate, tons of material recycled |
| 13. Climate Action | 13.2.2 Total greenhouse gas emissions per year |
| 14. Life Below Water | 14.5.1 Coverage of protected areas in relation to marine areas |
| 15. Life on land | 15.3.1 Proportion of land that is degraded over total land area |
| 16. Peace, Justice, and Strong Institutions | 16.1.4 Proportion of population that feel safe walking alone around the area they live after dark |
| 17. Partnerships for the Goals | 17.1.2 Proportion of domestic budget funded by domestic taxes |

8

# The Shift from Macro to Micro


- Integrating the SDGs into the business world is complicated by:
  - Differing perspectives on sustainability among companies.
  - Varying stakeholder expectations, especially in developed countries.
  - The need to consider factors like corporate governance, regulations, and the external environment.

9

# Social & Environmental Impact

# The Meaning of Social and Environmental Impact

- **A Complex Concept**: Despite growing interest, the concept of social and environmental impact remains a source of confusion due to the lack of a unified definition and its interchangeable use with terms like "output" and "outcome."
- **The Impact Value Chain**: To clarify these distinctions, the **impact value chain method** provides a framework to understand how an organization's resources lead to impact. This "logic chain" moves from **Inputs** to **Activities**, **Outputs**, **Outcomes**, and finally, **Impacts**.
  - **Inputs** are resources (e.g., staff, money).
  - **Activities** are the actions taken (e.g., services offered).
  - **Outputs** are the direct products of those activities.
  - **Outcomes** are the short-term changes or benefits.
  - **Impacts** are the long-term, broader changes or influences on society and the environment.
- **Outputs vs. Impacts**: A key distinction is that outputs measure organizational performance, while impacts reflect broader change. Outputs are often short-term and can be measured internally, but **impacts** require a multi-stakeholder perspective to capture long-term effects and external perceptions.

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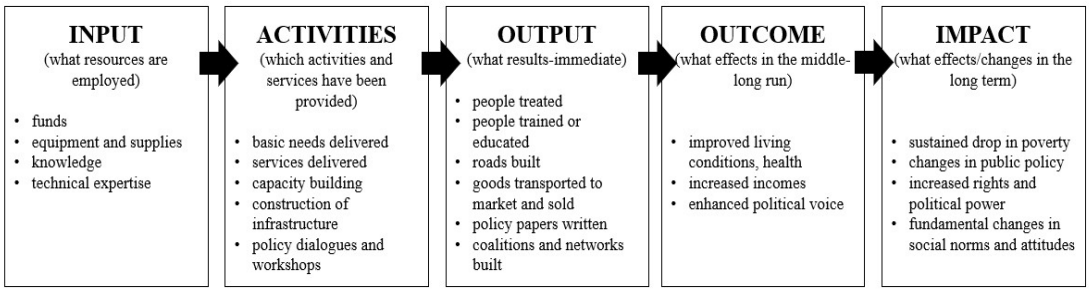
# The Impact Value Chain




12

# Assessing Social and Environmental Impact

- **Two Approaches**: The multi-stakeholder nature of impact assessment has led to two main approaches for defining impact:
  - **Counterfactual Analysis**: This technique attempts to "isolate" the specific impact of an organization's actions by comparing what happened to what *would have happened* if the intervention had not occurred.
  - **Broad-Sense Analysis**: This approach assesses impact in a more holistic way, looking at the overall changes created for a community. It considers both quantitative and qualitative results, such as improved well-being and long-term consequences.
- **Theory of Change**: The difference between these two approaches lies in their interpretation of the **Theory of Change (ToC)**

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# The Theory of Change (ToC)

- The **Theory of Change (ToC)** is a framework that explains how and why an organisation's initiatives and operations lead to intended outcomes and long-term impact.
- It serves **as the foundation** for defining social and environmental impact, linking an organisation’s initiatives to the changes they produce in society and the environment.

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# The Theory of Change (ToC)

- The ToC is both a **process** and a **product**.
  - **As a process**, it involves collaborative and ongoing reflection with stakeholders to explore how change happens.
  - **As a product**, it is often represented by a diagrammatic logic model, supported by a narrative.
- A common logic model is a simple, linear causal pathway that maps inputs to impacts

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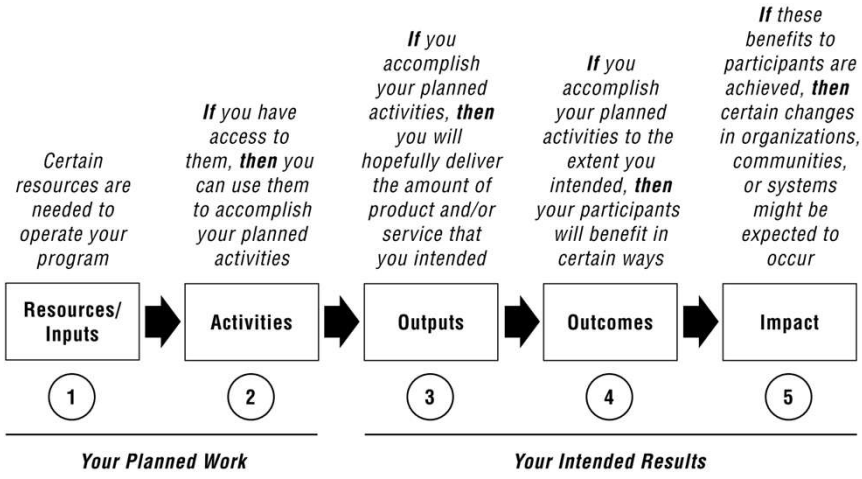
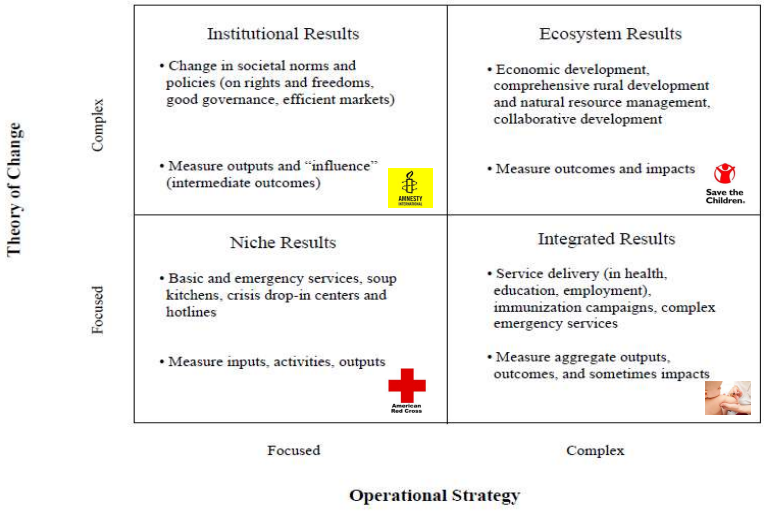
# The Theory of Change (ToC) - example

(Sourec: WK Kellogg Foundation, 2004)



# The Contingency Framework

(Ebrahim and Rangan, 2014)




# The Contingency Framework

- The **contingency framework** introduces two distinct approaches to the ToC, based on the clarity of the cause-and-effect relationship.
  - **Focused ToC**: The relationship between cause and effect is linear and clearly understandable.
  - **Complex ToC**: The relationship is explained by multiple causal factors and is only weakly understood.
- This framework helps organisations assess different results (niche, institutional, integrated, and ecosystem) within the impact value chain, depending on the complexity of their initiatives.

# The Contingency Framework

- Conventional wisdom in the social sector suggests that **one should measure results as far down the logic chain as possible**: outcomes and impacts.
- This expectation is based on a normative view that organizations working on social problems, especially if they seek public support, should be **able to demonstrate impact in solving societal problems**.
- **Yet it is worth considering whether, and to what degree, such measurement makes sense for all social sector organizations**

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# The Contingency Framework

| | |
|---|---|
| **Performance in emergency and relief work** | can be measured in terms of inputs, activities, and outputs. |
| **performance in service delivery work** | can be measured in terms of activities and outputs. |
| **performance in service delivery work, when of large scale and scope,** | can be measured in terms of outcomes and sometimes impacts. |
| **performance in advocacy and rights-based work** | can be measured in terms of outputs and "influence," an intermediary outcome. |

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# Social & Environmental Impact Measurement


## The Importance of Social and Environmental Impact Measurement

- Over the last three decades, **stakeholders** such as funders, taxpayers, and the general public have pressured organisations to provide information on their social and environmental impacts.
  - **Internal** to the organisation, measurement helps to identify strategic lines, more effective projects, and areas for improvement.
  - **External** to the organisation, it allows for communication with stakeholders, demonstrating the actual effectiveness of interventions and responding to information requests.
- However, a lack of **standardised and universal tools** to measure these impacts poses significant challenges.

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# Five Key Issues in Impact Measurement

**1. Financial Focus**: Many popular methods (like Social Return on Investment - SROI) are heavily focused on financial metrics, often neglecting non-financial metrics such as customer satisfaction, internal processes, or employee growth. New tools are needed to supplement these methods.

**2. Causality**: It is often difficult to attribute a specific impact to a single organisation's action, especially in complex programs like those focused on human rights. The lack of standards makes it difficult for organisations to benchmark their performance and confidently allocate resources to these issues. For example, for a disaster relief organisation, a good proxy for impact might be the number of ambulance trips rather than the number of meals distributed.

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# Five Key Issues in Impact Measurement

**3. Temporal Boundaries**: It is challenging to determine the long-term effects of an impact. Organisations must balance demonstrating accountability with the temptation to take credit for impacts beyond their actual control..

**4. Staff Skills**: Effective impact measurement requires specialised staff with specific skills, but these roles are often underfunded. This creates a gap between the importance of performance measurement and the resources allocated to it.

**5. Diversity of Measures**: The absence of a single, unified methodology for measuring social and environmental impact creates a risk of **"opportunistic measurement."** Organisations can choose methods that make their impact look better, potentially masking unsustainable conduct and creating a problem of legitimacy.

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# Categorising Social and Environmental Impact Measurement Methods

- Different methods for measuring social and environmental impact can be grouped into three main categories based on their approach.
  - **Process Methods**: Focus on monitoring the efficiency and effectiveness of operational processes, such as inputs, activities, and outputs. They do not provide an absolute measure of social return but can estimate outcomes based on outputs.
  - **Impact Methods**: Identify and measure both the operational results (outputs) and the resulting benefits (outcomes) to capture a project's social or environmental returns.
  - **Monetization Methods**: Assign a monetary value to the outcomes and relate them to economic measures like costs and investments. This allows for comparability with traditional financial indicators, but selecting appropriate financial proxies for non-monetary values is complex.

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# Two Alternative Measurement Perspectives

- There are two main perspectives on how to approach social and environmental impact measurement:
  - **"One-size-fits-all"**: This approach advocates for a single, universal measurement that can be adopted by all organisations. It is supported by investors who desire comparability and consistency, aligning with the standardised nature of financial accounting.
  - **"Tailored"**: This perspective argues for a case-by-case approach where common criteria are applied to define the most suitable measurement for each specific situation. It focuses on developing metrics that capture the diverse perceptions and information demands of various stakeholders.

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# The Accountability Problem

- Both the "one-size-fits-all" and "tailored" approaches face a central challenge known as the **"accountability problem,"** which is the difficulty of being accountable to numerous stakeholders with diverse aims.
  - **Critique of "One-size-fits-all"**: This approach is often criticised for being too simplistic. A single numerical indicator cannot represent the full, complex consequences of an organisation's actions on all its stakeholders.
  - **Critique of "Tailored"**: While more precise, this approach is often criticised for being time-consuming, subjective, and non-comparable across different organisations.
- **Conclusion**: Despite their differences, both perspectives highlight the critical role of stakeholders in designing more complex, multi-directional performance measurement systems to address the shared challenge of accountability.

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# The Stakeholder-Centric Approach

- The **stakeholder engagement approach** is a framework that places stakeholders at the center of the social and environmental impact measurement process.
- This approach argues that social impact is created when an organisation's activities and interventions meet the **demands of its stakeholders**, not just the organisation's own goals.
- By involving stakeholders in the measurement process, organisations can:
  - **Tailor measurements**: Create metrics that accurately reflect the concerns and priorities of those who are most affected by the organisation's activities.
  - **Enhance accountability**: Build trust and legitimacy by showing stakeholders that their perspectives are valued and taken into account.

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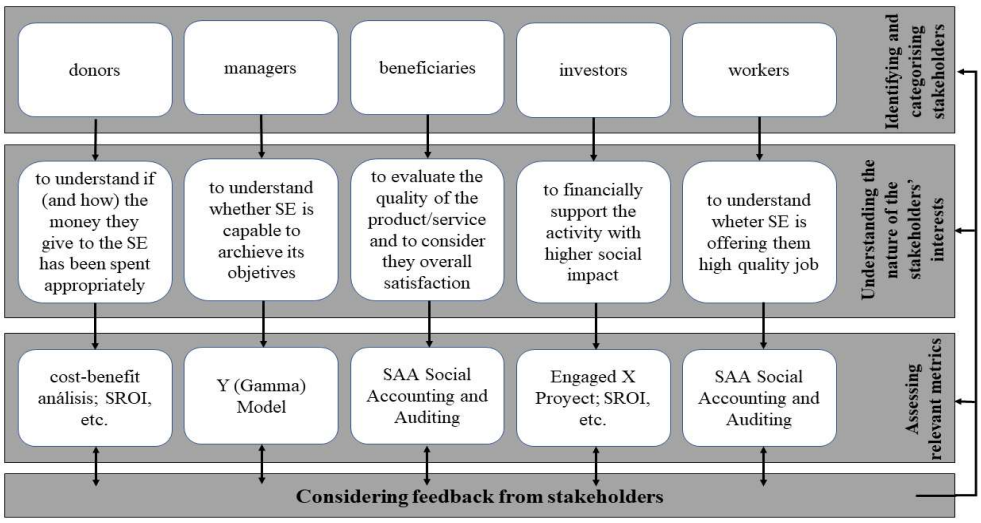
# Five-step-multiple-constituencies-approach




# The Importance of KPIs

- After deciding the level of measurement, an organisation must choose between **qualitative** and **quantitative** indicators:
- **Qualitative Indicators**: Examine how individuals, communities, and organisations perceive and experience changes.
  - **Features:** Descriptive, fluid, relative, and subjective.
  - **Purpose:** Helps to understand the "**why**" behind changes.
- **Quantitative Indicators**: Use numerical data to describe characteristics, such as quantity and frequency.
  - **Features:** Systematic, based on theory/evidence, and often perceived as objective.
  - **Purpose:** Measures the "what" and "how much" of an impact.

# Criteria for Selecting Effective KPIs

To be effective, indicators should follow the **SMART** criteria:

| **Specific**: | **Measurable**: | **Attainable**: | **Relevant**: | **Time-bound**: |
|---|---|---|---|---|
| • Address a specific component of the intended impact. *e.g., "increase high school graduation rates by 10%."* | • Allow for data gathering and progress tracking. *e.g., "decrease the unemployment rate from 15% to 10%."* | • Be based on reasonable expectations. *e.g., "become net-zero by 2050," not "next year."* | • Align with the organisation's overarching mission. *e.g., "meals supplied to needy families" for an organisation combating food insecurity.* | • Have a specific period for completion. *e.g., "host monthly community forums for one year."* |

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# To wrap up

# Differentiating Impact from Other Measures

- The term "impact" is often used loosely in sustainability reports. It's crucial to understand what is being measured and why.
- **Impact** refers to long-term changes resulting from an organisation's actions.
- Other measures, such as **outputs** (the immediate results of an activity), are not the same as impact.
- Using output measures to make judgments about impact can be misleading and lead to a lack of accountability.
- For example, the **Corporate Sustainability Reporting Directive (CSRD)**, while using the term "impact," often focuses on measuring outputs rather than true, long-term impact.

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# Thanks for your attention

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# Working group instruction

## Teaching Activity 3

*Burgos, August 31 – September 4, 2025*

**Ericka Costa, University of Trento**

UNIVERSIDAD DE BURGOS · Centre for Sustainability Management LEUPHANA · MBS since 1897 MONTPELLIER BUSINESS SCHOOL · gestionet · UNIVERSITÀ DI TRENTO

## Learning Outcomes

- This exercise aims to reflect on the differences between **reporting** and **impact assessment**.
- In detail, the case will help **discuss the limitations of sustainability reporting as an instrument for assessing impacts and changes**.
- Starting from the social value chain (Clark et al., 2004) and the Contingency Framework for social impact (Ebrahim & Rangan, 2010), this exercise will help students identify the differences between input, activities, output, outcome and impact
- Reflect on the challenges of assessing impact

# The case-study

Save the Children

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# Case Study: Save the Children's Social and Environmental Impact

- **Placement in the Contingency Framework**: According to Ebrahim and Rangan (2010), Save the Children operates in the **"Ecosystem Results"** quadrant. This is because its work is characterized by both a **complex theory of change (ToC)** and a **complex operational strategy**.
  - **Complex ToC**: The organization's interventions involve multiple, interconnected causal factors, not a simple linear cause-and-effect model.
  - **Complex Operational Strategy**: Save the Children manages numerous tasks and interventions simultaneously to achieve its goals.
- **Impact on Children and Climate**: Save the Children's work aims to build children's climate resilience by addressing the health effects of climate change, improving food security and nutrition, and promoting sustainable livelihoods.
- **Broad Scope of Work**: The organization's initiatives are wide-ranging, tackling disruptions in essential services like water, sanitation, hygiene, education, and health caused by climate shocks and natural disasters.
- **Advocacy and Accountability**: Save the Children also empowers civil society and children to hold governments accountable for upholding their rights in the face of the climate crisis, contributing to a more sustainable and resilient future.

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# Save the Children's Accountability and Reporting

- The "Global Environmental Sustainability Report (2021 and 2022)" provides exclusive information regarding the global approach to GHG emissions reduction.
- The "Save the Children Annual Report" is a document where information regarding the complex and diverse activities they carried out are clearly described:
  - Children's health and education;
  - respond to emergencies
  - access children to education (male and female)
  - children nutrition
  - children's lives free from violence
  - children meals
- The "100 Years of Fighting for Children" Annual Report 2018.
- Save the Children "Framework for the Future - Ending Poverty in a Generation" (2014)

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# Key instruction

- The purpose of this activity is to build the "impact value chain" (input-activities-output-outcome/impact) of a specific project of Save the Children
- First, you have to read their reporting and accountability documents that we provided to you
- Then, you should:
  - **Identify** the elements of the impact value chain (each group has one or more elements)
  - **Summarise** the potential existing indicators
  - **Propose** new indicators (where applicable) that could be implemented
- Focus on "Child Malnutrition"

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# Key instruction

- Reflect on how **limiting the examination to the reporting produced by the organization** itself could limit the understanding of a wider impact created.
- Discuss how the different forms of reporting and the different materials include **very different information**. This could indicate how different reports can be aimed at different stakeholders or readers, which can also affect how the perspectives of the outputs, outcomes and impacts are emphasized. Please discuss how different information toward different stakeholders could create different meanings of impacts.

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# Beyond the case

- Discuss both **positive and negative** impacts
- Discuss impact in terms of **multiple dimensions** (economic, social, cultural, and environmental)
- Discuss the **different stakeholder groups** that affect the organisations and the different stakeholder engagement practices that are implemented toward different stakeholders.
- Discuss the **complexities of identify new indicators**

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# Unit 3.1 Sustainability Management Accounting

## Module 3 Sustainability Management Accounting and Control

*TA 3, Burgos, August 31 – September 4, 2025*

**Centre for Sustainability Management, Leuphana University**

UNIVERSIDAD DE BURGOS

Centre for Sustainability Management

LEUPHANA UNIVERSITÄT LÜNEBURG

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gestionet Play Think Learn

UNIVERSITÀ DI TRENTO

# prepared by

**Dr. Julia Benkert** says:
“Holistic approaches to managerial decision-making drive business sustainability.”

**Prof. Dr. Stefan Schaltegger** says:
“Those who understand how they can operate more sustainably lose their fear of change.”

# Module 3 Overview

## Unit 3.1 - SMA
## Sustainability Management Accounting

- key concepts related to SMA
- Awareness of the main SMA areas (including carbon, water, etc. accounting) and tools, and how they support managerial decision-making
- Role of accounting for addressing sustainability problems beyond organisational boundaries
- Reflection on the “business case” of sustainability

## Unit 3.2 - SMC
## Sustainability Management Control

- key frameworks of SMC
- The notion of “positive sustainability” in SMC
- the Sustainability Balanced Scorecard (SBSC) as a strategy implementation approach
- management approaches for the integration and implementation of sustainability targets in companies

# Agenda for today

| Wednesday, September 3, 2025 | |
|---|---|
| **Venue:** UBU Library, Room - Aula Formación PB (Ground floor) | |
| 9:00 – 12:00 | **Module 3. Unit 3.1. Sustainability management accounting**<br>Julia Benkert, University of Leuphana<br>• **Including coffee break** |
| 12:00 – 13:00 | **Group discussion**<br>Julia Benkert, University of Leuphana |
| 13:00 – 14:30 | **Lunch**<br>Residencia Universitaria Camino de Santiago - Refectorio |
| **Meeting point:** University of Burgos | |
| 14:30 – 17:30 | **Visit to Atapuerca** |
| 20:30 | **Dinner**<br>Paquita Mariví Gastrobar |

**Coffee break:**
**10:30 – 11:00**

# Unit 3.1 Sustainability Management Accounting

## 1. FUNDAMENTALS OF SUSTAINABILITY MANAGEMENT ACCOUNTING

- Key concepts
- EMA framework
- Actors and their roles in SMA:

  *Sustainability information types, management roles and sustainability information, accountants and sustainability information*

- Accounting systems and (internal and external) stakeholders

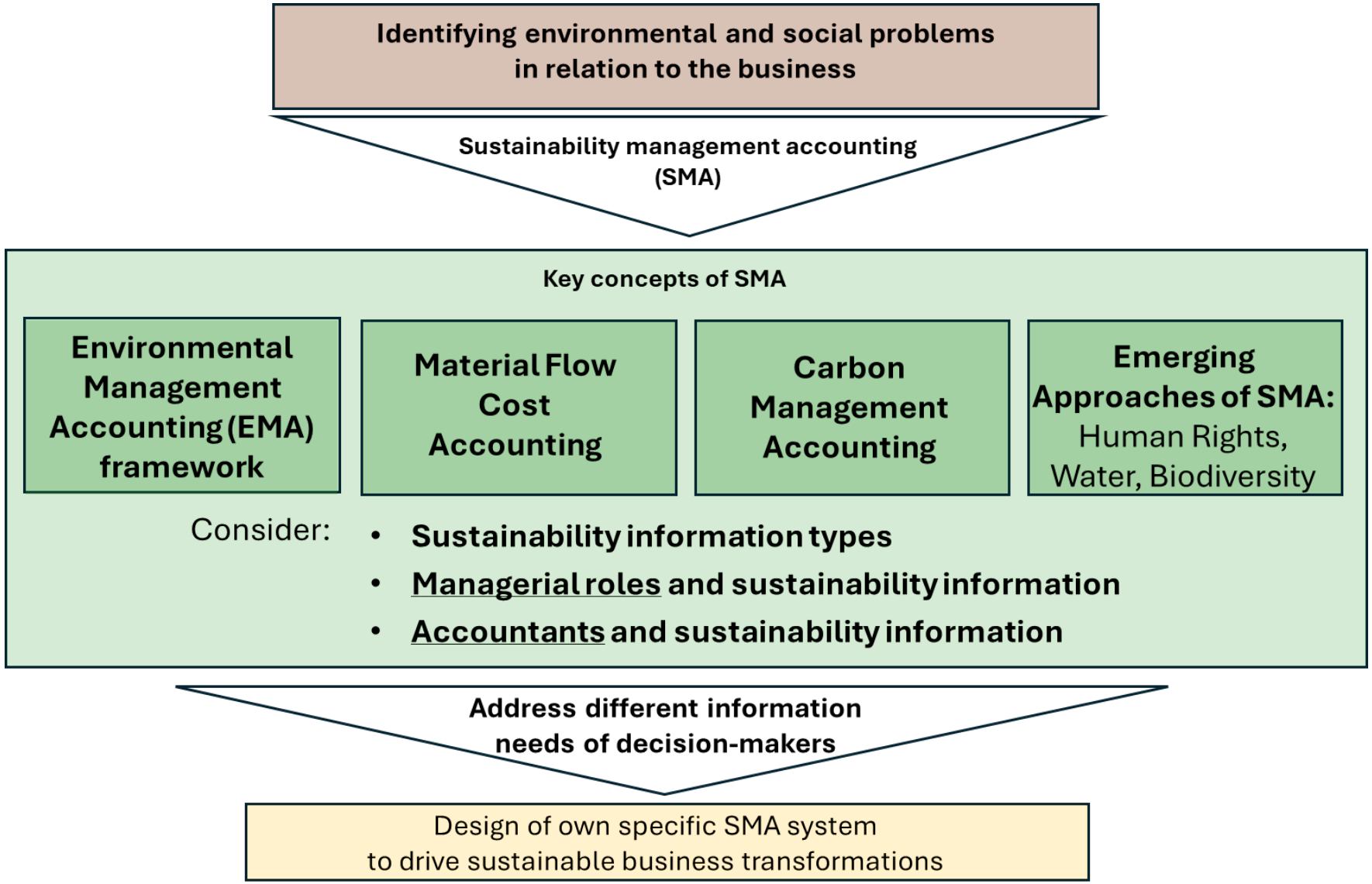
## 2. SPECIFIC AREAS OF SUSTAINABILITY MANAGEMENT ACCOUNTING

- Material flow cost accounting (MFCA)
- Carbon management accounting (CMA)
- Further emerging approaches of SMA

  *Human rights and modern slavery accounting, water management accounting, biodiversity management accounting*

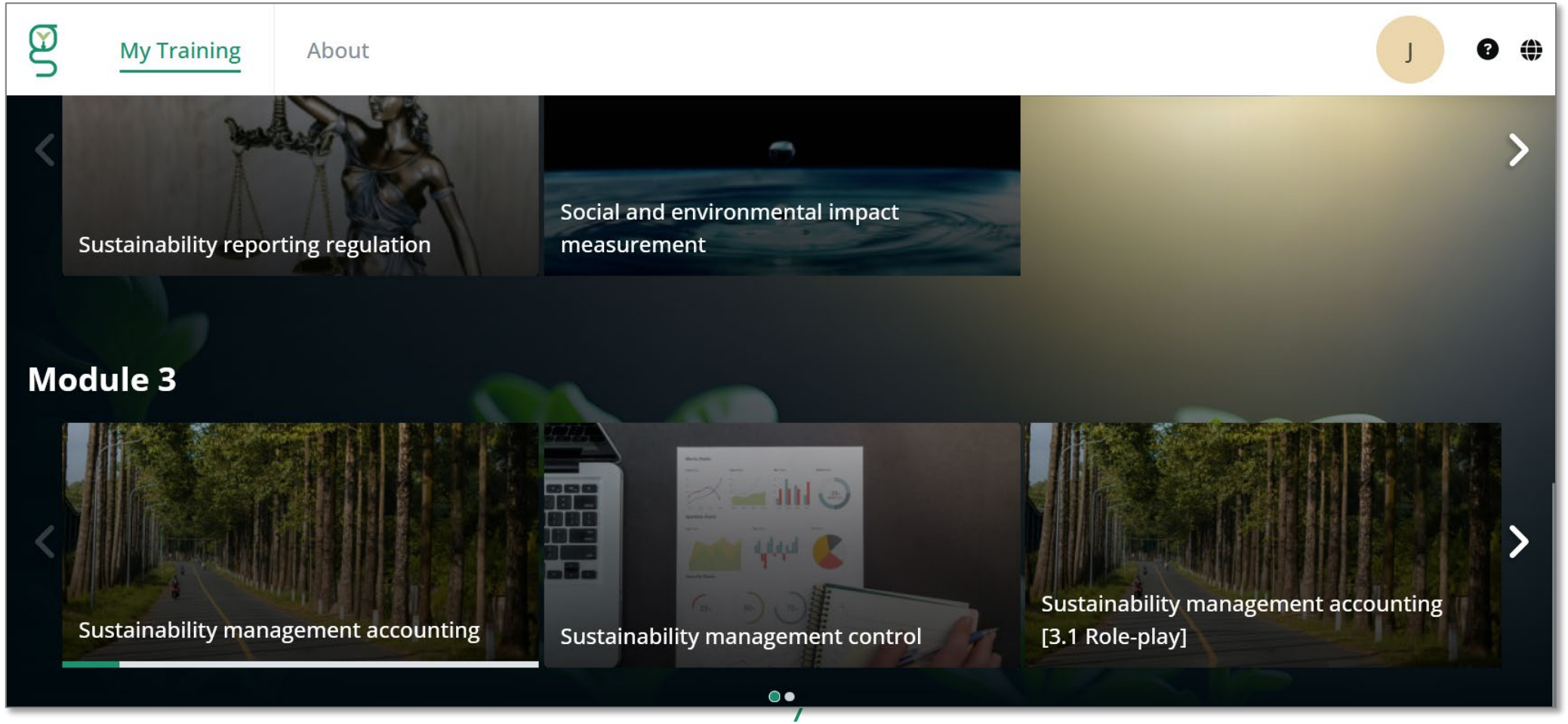
## 3. TOWARDS A COMPREHENSIVE APPROACH OF SMA

# How does SMA drive sustainability?



# Module 3 on the Account4GreenEco platform

- Go to https://learn.a4ge.eu/campus/ and log in



# Self-directed learning and testing of Unit 3.1 on the Account4GreenEco platform

| Activity | Time | Comment |
|---|---|---|
| Unit 3.1 (SMA): self-directed learning on the Account4GreenEco platform | 9:20 – 10:30 am | Individual |
| Coffee break | 10:30 – 11:00 am | Zona Café |
| Unit 3.1 (SMA): self-directed learning on the Account4GreenEco platform | 11:00 – 11:45 am | Individual |
| Q&A and reflections on SMA | 11:45 – 12:00 pm | Class discussion |
| SMA case study | 12:00 – 12:45 pm | Group work on the platform |
| Debrief and final Q&A on SMA | 12:45 – 13:00 pm | Class discussion |

# SMA concepts and frameworks

# Key aspects unit 3.1 – sustainability information types and management roles

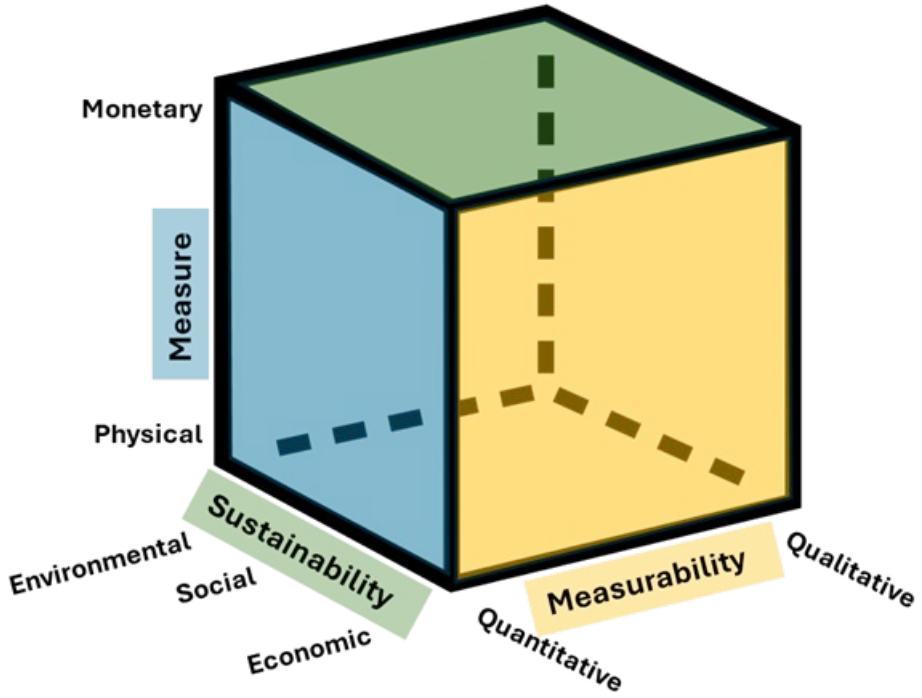



Figure 2: Characteristics of different types of sustainability information (according to Schaltegger, Burritt, Zvezdov, Hörisch &Tingey-Holyoak, 2015)

# Key aspects unit 3.1 – accounting systems and stakeholders

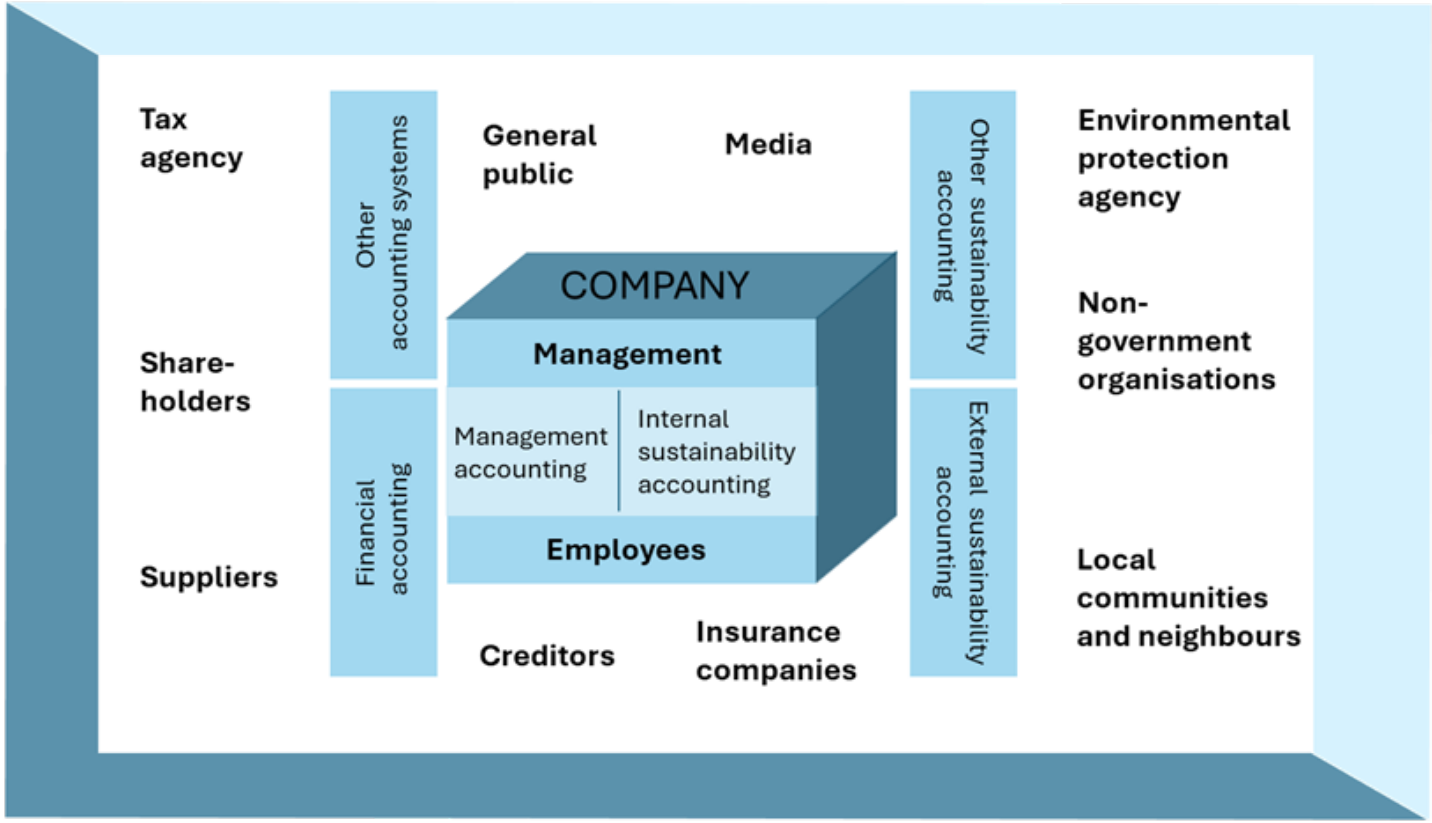



Figure 3: Accounting systems and stakeholders (based on Schaltegger & Burritt, 2000)

# Key aspects unit 3.1 – 'inside-out' and 'outside-in' views on SMA

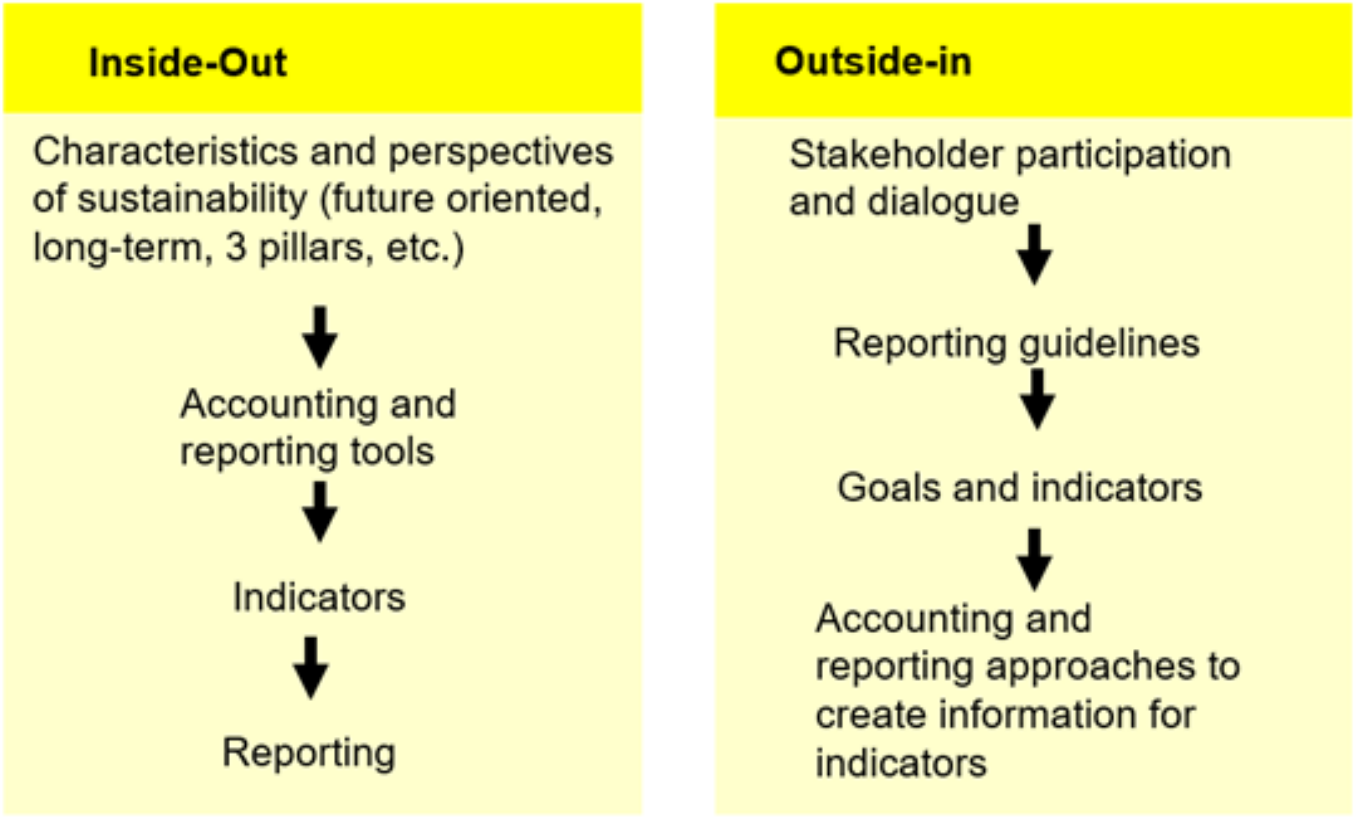


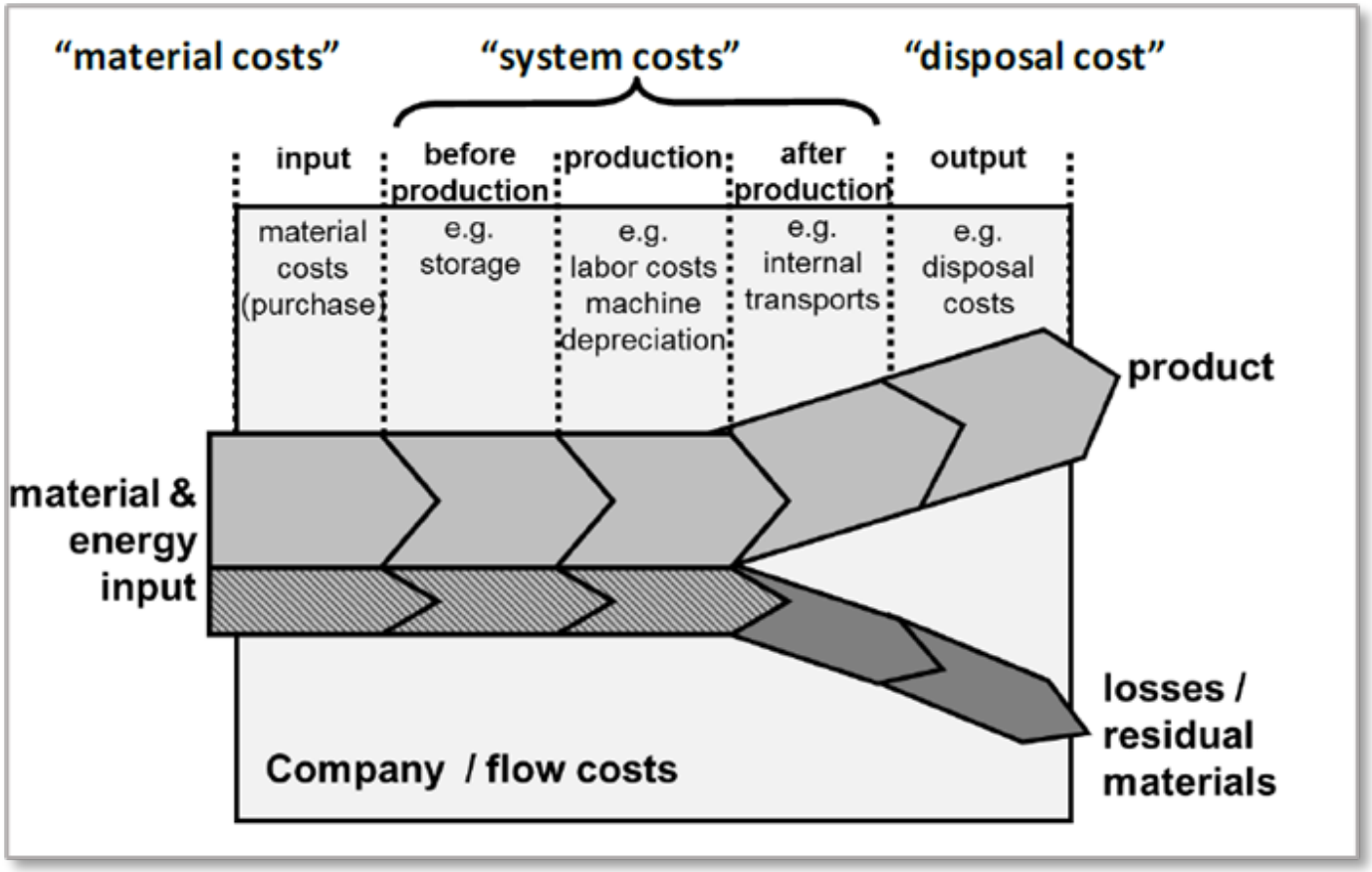

Figure 4: Inside-Outward and Outside-inward perspectives on SMA (based on Schaltegger & Wagner, 2006)

# The Environmental Management Accounting (EMA) framework

| | | Environmental Management Accounting (EMA) | | | |
|---|---|---|---|---|---|
| | | Monetary EMA | | Physical EMA | |
| | | Short-term | Long-term | Short-term | Long-term |
| Past-orientated | Routinely generated | Environmental cost accounting | Environment induced capital expenditure and revenue | Material and energy flow accounting | Environmental capital impact accounting |
| | Ad hoc | Ex-post assessment of relevant environmental costing decisions | Ex-post inventory assessment of projects (including life cycle costing – LCC) | Ex-post assessment of short-term environmental impacts | Ex-post inventory appraisal of physical environmental investments (including life cycle assessment – LCA) |
| Future-orientated | Routinely generated | Monetary environmental budgeting | Environmental long-term financial planning | Physical environmental budgeting | Environmental long-term physical planning |
| | Ad hoc | Relevant environmental costing | Monetary environmental investment appraisal | Tools designed to predict relevant environmental impacts | Physical environmental investment appraisal |

Comprehensive Framework of Environmental Management Accounting (according to Burritt et al., 2002)

# Material Flow Cost Accounting (MFCA)




Distribution of the different types of costs in the flows to products and residual materials (Schmidt & Nakajima, 2013)

# Material Flow Cost Accounting (MFCA) in practice

| The conventional way of calculating environmentally-induced costs | | The comprehensive way of calculating environmentally-induced costs | |
|---|---|---|---|
| *Costs of waste disposal* | | *Costs of waste disposal* | |
| Fees | 500,000 | Fees | 500,000 |
| Disposal costs | 300,000 | Disposal costs | 300,000 |
| | | First total | 800,000 |
| *Total* | | *Environmentally-induced production costs* | |
| *800,000* | | Logistics & transportation | 150,000 |
| | | Additional personnel | 250,000 |
| | | Additional depreciation | 200,000 |
| | | Storage | 100,000 |
| | | Second total | 1,500,000 |
| | | *Excess material input* | |
| | | Purchase | 4,500,000 |
| | | *Comprehensive total* | *6,000,000* |

simplified example of relevance of material flow costs (source: Schaltegger & Burritt 2000)

# SMA Case study

# Get into your groups

| Team A | | |
|---|---|---|
| MBS | Oguzhan | Cansiz |
| UBU | Lucía | Arce López |
| UniTrento | Giulia | Bocchia |
| Leuphana | Harsh | Arora |

| Team B | | |
|---|---|---|
| MBS | Clara | Díaz Megido |
| Leuphana | Christian | Kuhnert |
| UBU | Rosa | Cañaveras |
| UniTrento | Giacomo | Gatti |

| Team C | | |
|---|---|---|
| Leuphana | Constanze | Fuchs |
| UniTrento | Veronica | Di Pilato |
| UBU | Andrea | Mariscal López |
| MBS | Jihane | El Khalfaouy |

| Team D | | |
|---|---|---|
| UniTrento | Matteo | di Eugenio |
| UBU | Mario | Paniagua |
| MBS | Lisa | Mariette |
| Leuphana | Hendrik | Spreckelsen |

| Team E | | |
|---|---|---|
| UBU | Daniela Alejandra | Rocha |
| Leuphana | Anna | Tsedik |
| MBS | Eloïse | Reig |
| UniTrento | Sofia | Torano |

| Team F | | |
|---|---|---|
| UniTrento | Amine | Salhi |
| MBS | Arsalan | Basharat |
| UBU | Anna | Lopez |
| Leuphana | Diana Jimena | Lopez Jimenez |

# Unit 3.1 Case study: SMA and stakeholders

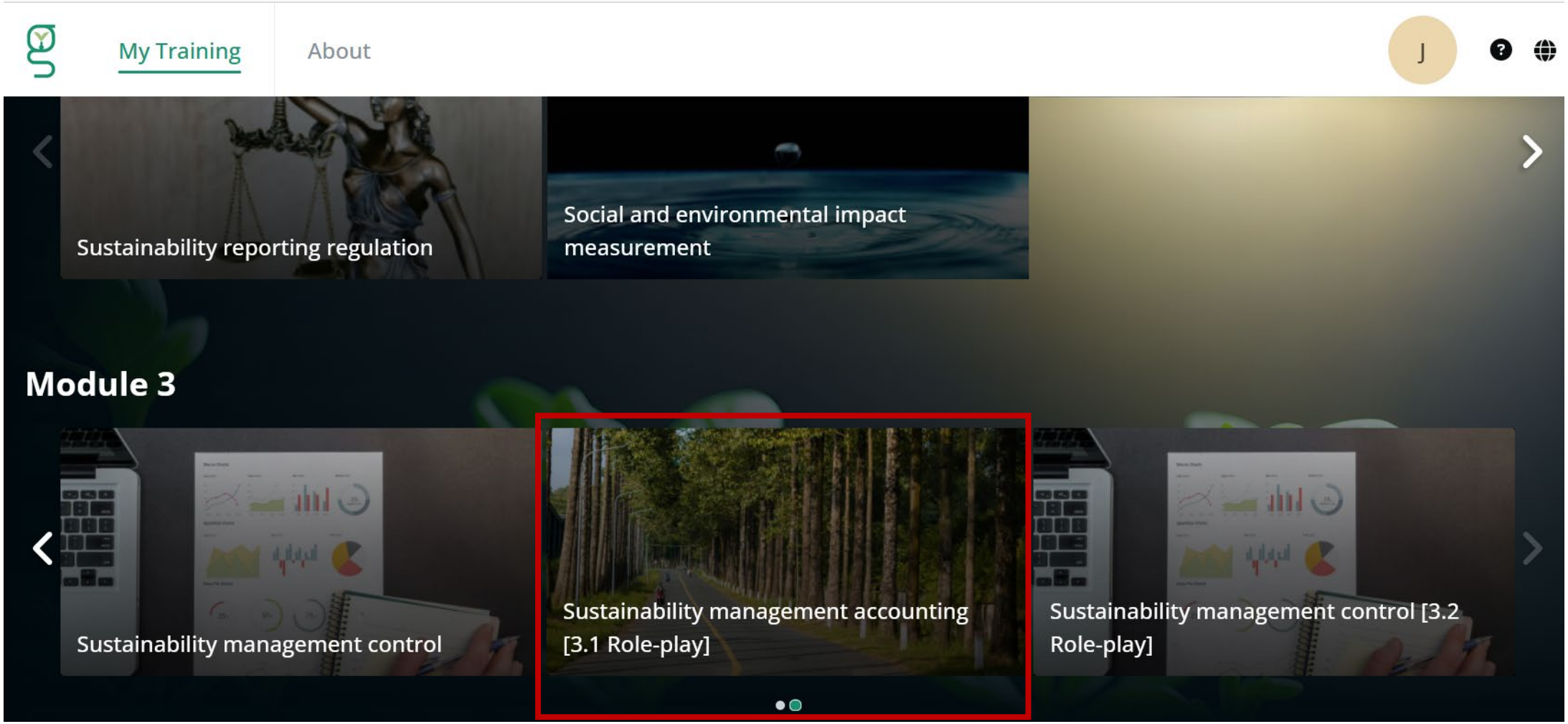
## Scenario (Summary)

You are the CEO of a company producing agricultural fertilizers that are sold to farmers and agribusinesses in the region and beyond. Due to climate change, farming conditions in the region have become more challenging over the last decade with increasing summer droughts and the more frequent occurrence of sudden flooding after heavier-than-usual rainfalls.

Recently, different local stakeholders have formed an action group and have approached your company because they are concerned about your company's impact on local water resources (scarcity and pollution). The action group want to know more about the company's plans to reduce its water usage, to reduce its chemical impact, and how it will measure its progress. The media has also approached your company in regards to this.

How do you handle this?

# SMA Case study on the Account4GreenEco platform



# Self-directed learning and testing of Unit 3.1 on the Account4GreenEco platform

| Activity | Time | Comment |
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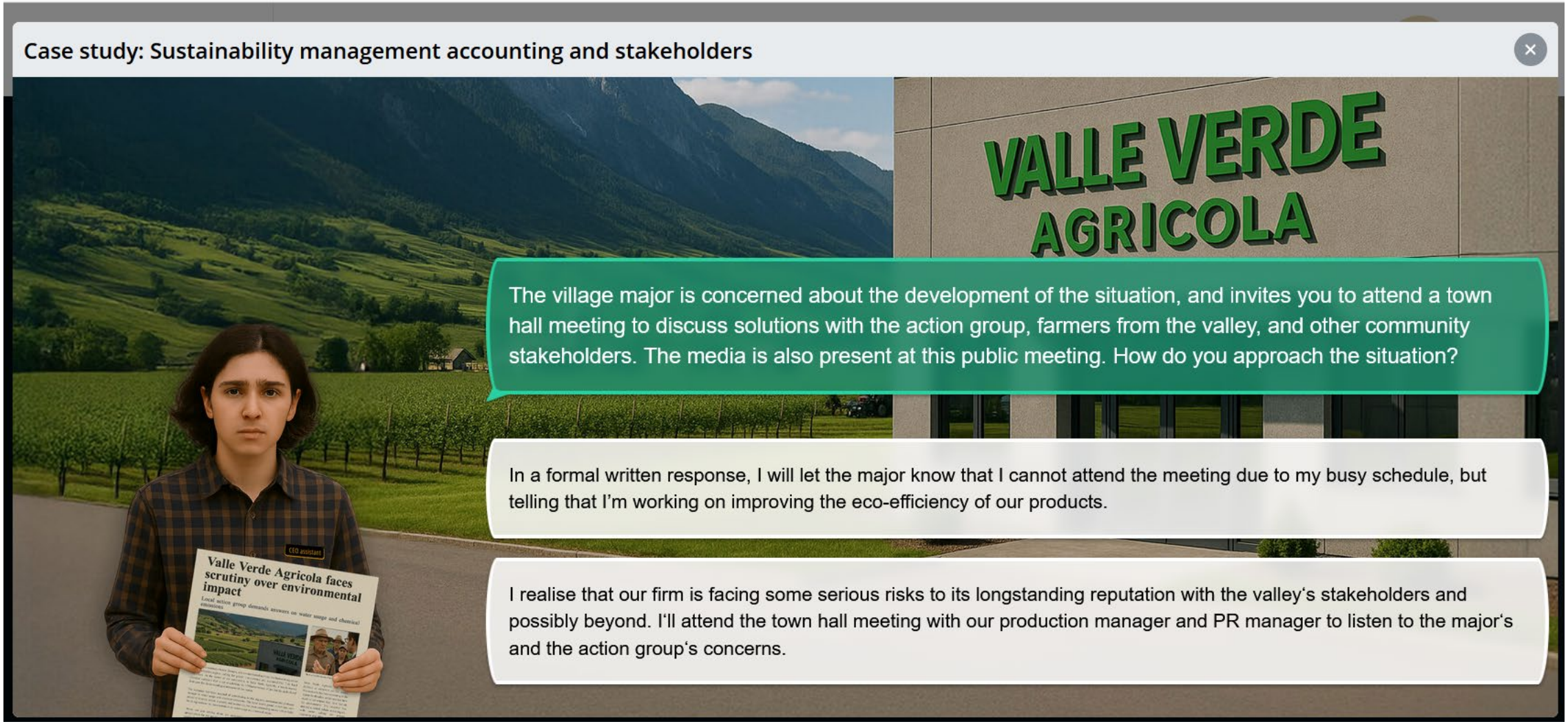
| **SMA case study** | **12:00 – 12:45 pm** | **Group work on the platform** |
| Debrief and final Q&A on SMA | 12:45 – 13:00 pm | Class discussion |

# SMA Case study – How did you go?



# Thank you!

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The project "Sustainability Accounting Learning Platform for a Green Economy" (Account4GreenEco) is co-funded by the Erasmus+ programme of the European Union (Ref. 2022-1-ES01-KA220-HED-000089844). The content of this presentation is the sole responsibility of the Account4GreenEco Partnership and neither the European Commission nor the Spanish Service for the Internationalisation of Education (SEPIE) are responsible for any use that may be made of the information contained therein.

# Agenda for the afternoon

| Wednesday, September 3, 2025 | |
|---|---|
| **Venue:** UBU Library, Room - Aula Formación PB (Ground floor) | |
| 9:00 – 12:00 | **Module 3. Unit 3.1. Sustainability management accounting**<br>Julia Benkert, University of Leuphana<br>• **Including coffee break** |
| 12:00 – 13:00 | **Group discussion**<br>Julia Benkert, University of Leuphana |
| 13:00 – 14:30 | **Lunch**<br>Residencia Universitaria Camino de Santiago - Refectorio |
| **Meeting point:** University of Burgos | |
| 14:30 – 17:30 | **Visit to Atapuerca** |
| 20:30 | **Dinner**<br>Paquita Mariví Gastrobar |

**After lunch: Visit to Atapuerca!**

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# Unit 3.2 Sustainability Management Control

## Module 3 Sustainability Management Accounting and Control

*TA 3, Burgos, August 31 – September 4, 2025*

**Centre for Sustainability Management, Leuphana University**

UNIVERSIDAD DE BURGOS

Centre for Sustainability Management

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# prepared by

**Dr. Julia Benkert** says:
“Holistic approaches to managerial decision-making drive business sustainability.”

**Prof. Dr. Stefan Schaltegger** says:
“Those who understand how they can operate more sustainably lose their fear of change.”

# Module 3 Overview

## Unit 3.1 - SMA
## Sustainability Management Accounting

- key concepts related to SMA
- Awareness of the main SMA areas (including carbon, water, etc. accounting) and tools, and how they support managerial decision-making
- Role of accounting for addressing sustainability problems beyond organisational boundaries
- Reflection on the “business case” of sustainability

## Unit 3.2 - SMC
## Sustainability Management Control

- key frameworks of SMC
- The notion of “positive sustainability” in SMC
- the Sustainability Balanced Scorecard (SBSC) as a strategy implementation approach
- management approaches for the integration and implementation of sustainability targets in companies

# Agenda for today

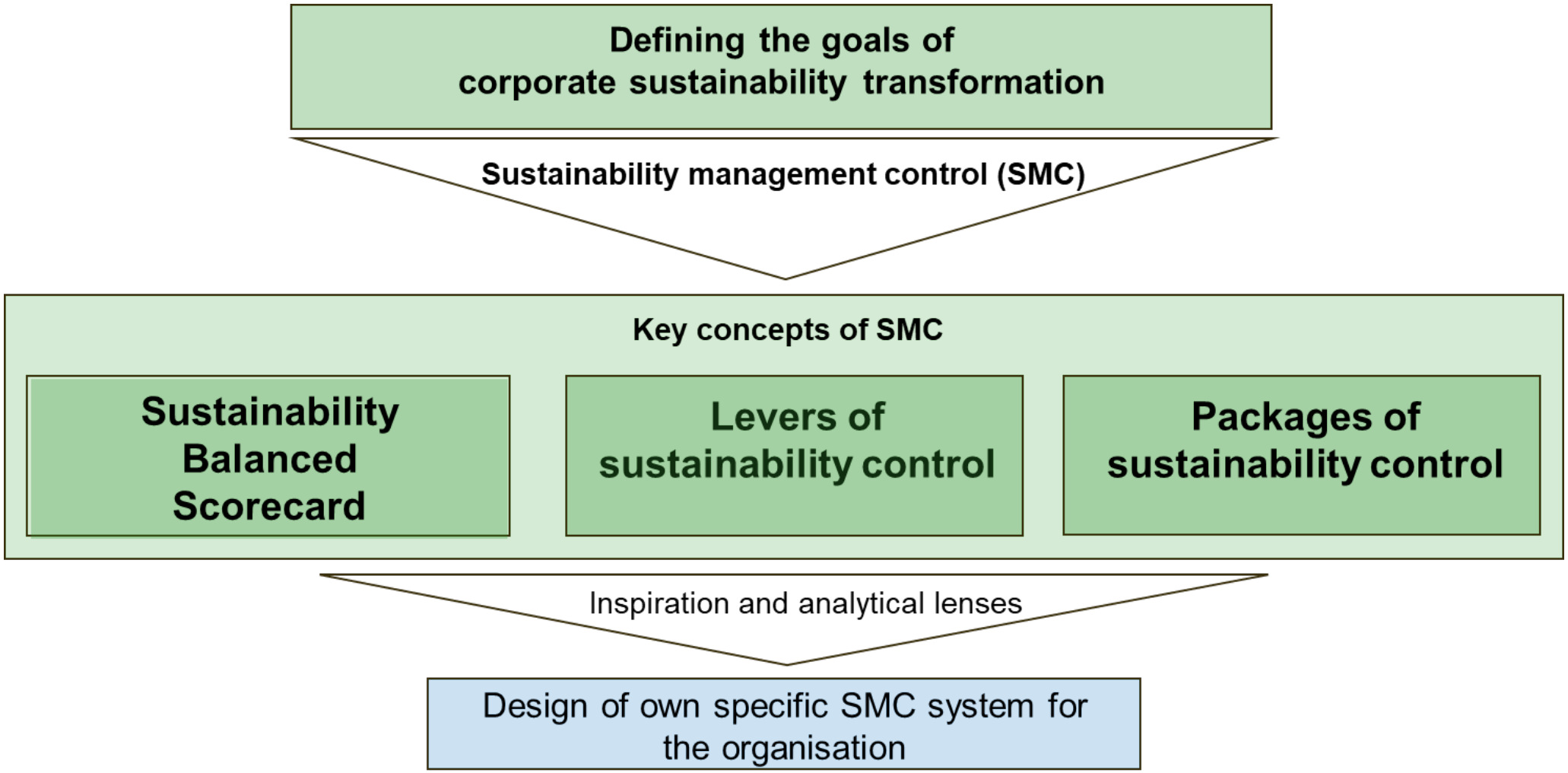
| Thursday, September 4, 2025 | |
|---|---|
| **Venue:** UBU Library, Room - Aula Formación PB (Ground floor) | |
| 9:00 – 11:30<br>9:00 -12:00 | **Module 3. Unit 3.2. Sustainability management control**<br>Julia Benkert, University of Leuphana<br>• **Including coffee break** |
| 11:30 – 12:45<br>12:00 -13:00 | **Group discussion**<br>Julia Benkert, University of Leuphana |
| 13:00 – 14:30 | **Lunch**<br>Residencia Universitaria Camino de Santiago - Canteen |
| 14:30 – 15:00 | **Sustainability Awareness**<br>Ericka Costa, University of Trento |
| 15:00 – 16:00 | **Practitioner session** |
| 16:00 – 16:30 | **Feedback Session**<br>Nicolas Garcia-Torea, University of Burgos |
| 16:30 – 16:45 | **Closing and Farewell**<br>Nicolas Garcia-Torea, University of Burgos |
| **Venue: Burgos, Historic Centre** | |
| 20:30 | **Dinner**<br>Hotel Rice Palacio de los Blasones |

**Coffee break:**
**10:30 – 11:00**

# Unit 3.2 Sustainability Management Control

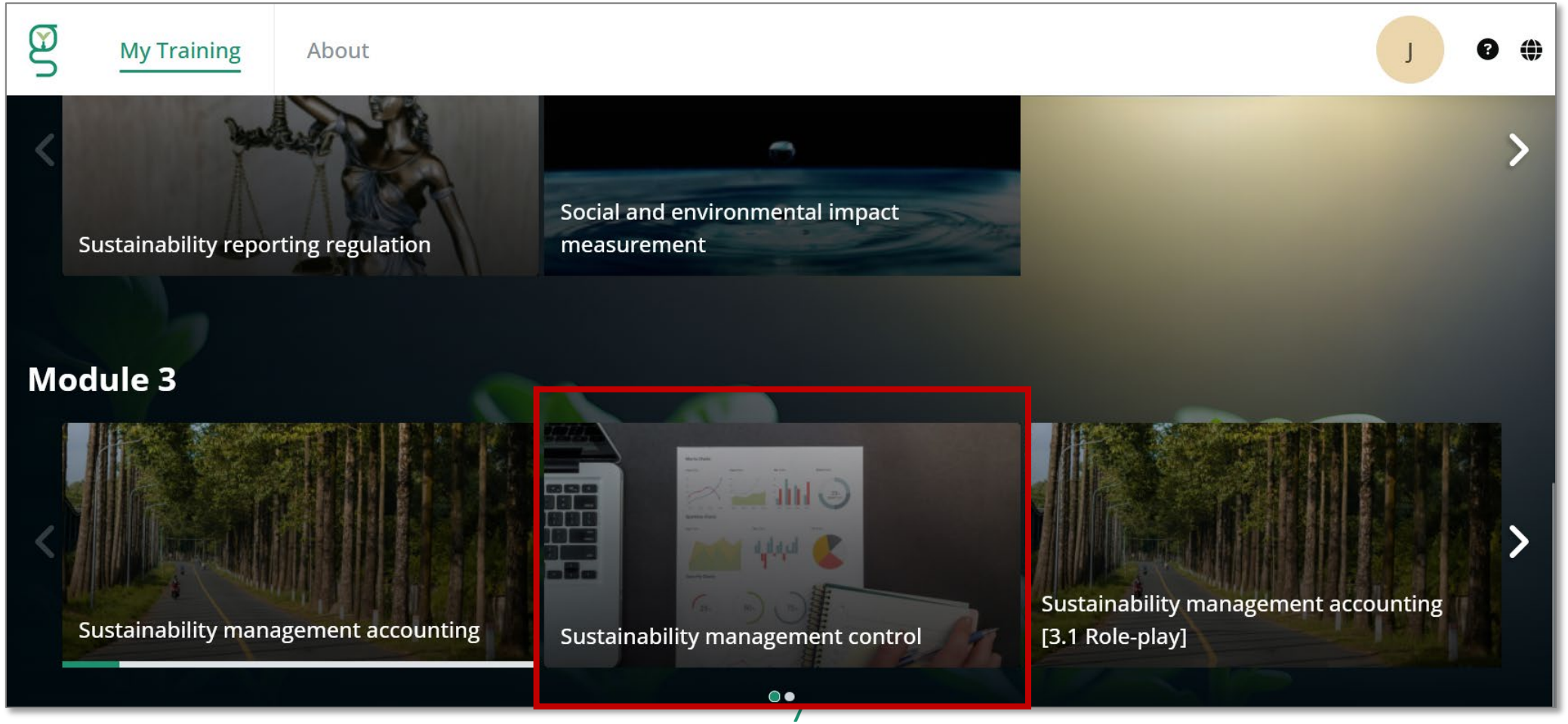
1. FROM LESS NEGATIVE TO MORE POSITIVE SUSTAINABILITY CONTRIBUTIONS
2. KEY FRAMEWORKS OF SUSTAINABILITY MANAGEMENT CONTROL
   - Sustainability balanced scorecard (SBSC)
   - Levers of sustainability control
   - Packages of sustainability control
3. OUTLOOK

# Overview of SMC



# Unit 3.2 on the Account4GreenEco platform

- Go to https://learn.a4ge.eu/campus/ and log in



# Self-directed learning and testing of Unit 3.2 on the Account4GreenEco platform

| Activity | Time | Comment |
|---|---|---|
| Unit 3.2 (SMC): self-directed learning on the Account4GreenEco platform | 9:20 – 10:30 am | Individual |
| Coffee break | 10:30 – 11:00 am | Zona Café |
| Unit 3.2 (SMC): self-directed learning on the Account4GreenEco platform | 11:00 – 11:45 am | Individual |
| Q&A and reflections on SMC | 11:45 – 12:00 pm | Class discussion |
| SMC case study | 12:00 – 12:45 pm | Group work on the platform |
| Debrief and final Q&A on SMC | 12:45 – 13:00 pm | Class discussion |

# Sustainability Management Control frameworks

# Key aspects unit 3.2 – Sustainability balanced scorecard (SBSC)

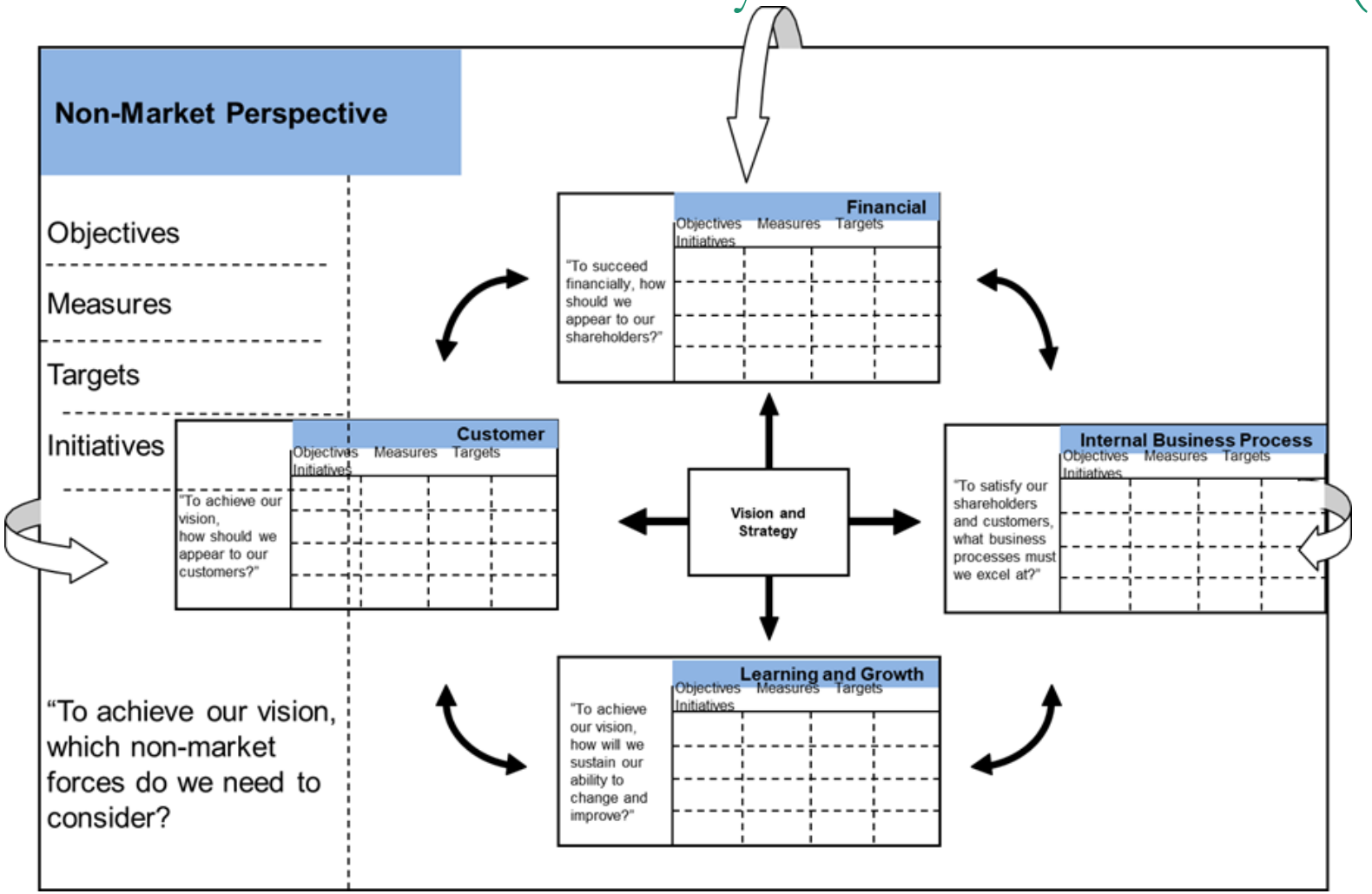



Figure 1: The original SBSC (Figge et al. 2002)

# Key aspects unit 3.2 – Levers of sustainability control

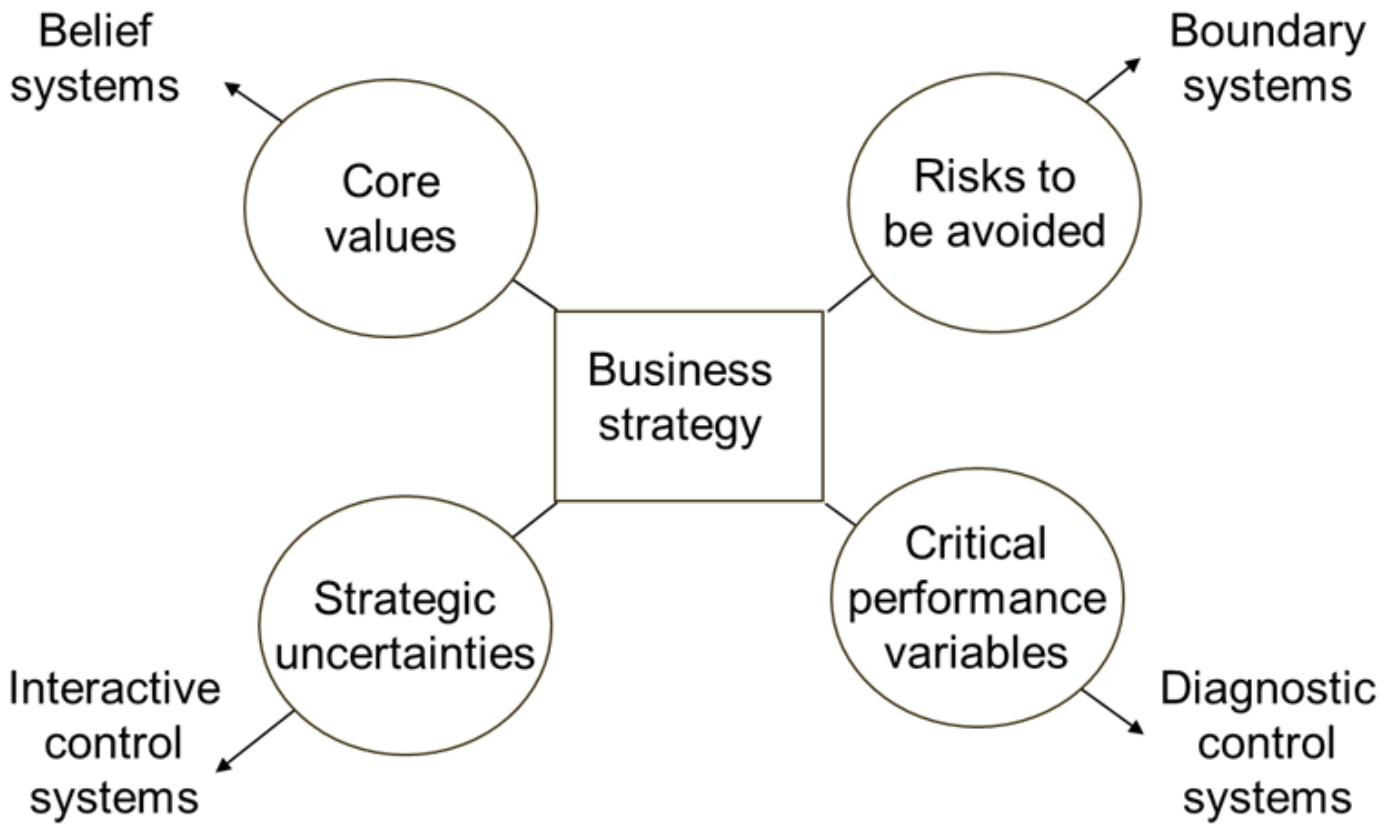



Figure 4: Levers of control (source: Simons 1995)

# Key aspects unit 3.2 – Packages of sustainability control

(1) **Packages of mechanistic formal controls** characterized by a high degree of formalization, standardization, and centralization. They are typical for companies with a strong hierarchical structure focusing on efficiency and cost control.

(2) **Packages of organic, informal controls** are characterised by a low degree of formalization, standardization, and centralization and often used in companies with a flat organizational structure focusing on innovation and flexibility.

(3) **Packages of strategic formal controls** entail strategic planning, goal-setting, and performance measurement aiming to coordinate and align different business units of the organisation.

(4) **Empirical packages of formal and informal controls** that can often been seen in organisations operating in rapidly changing environments, requiring a high degree of flexibility, adaptation, responsiveness, experimentation, and learning.

# SMC Case study

# Unit 3.2 Case study: Informal sustainability controls

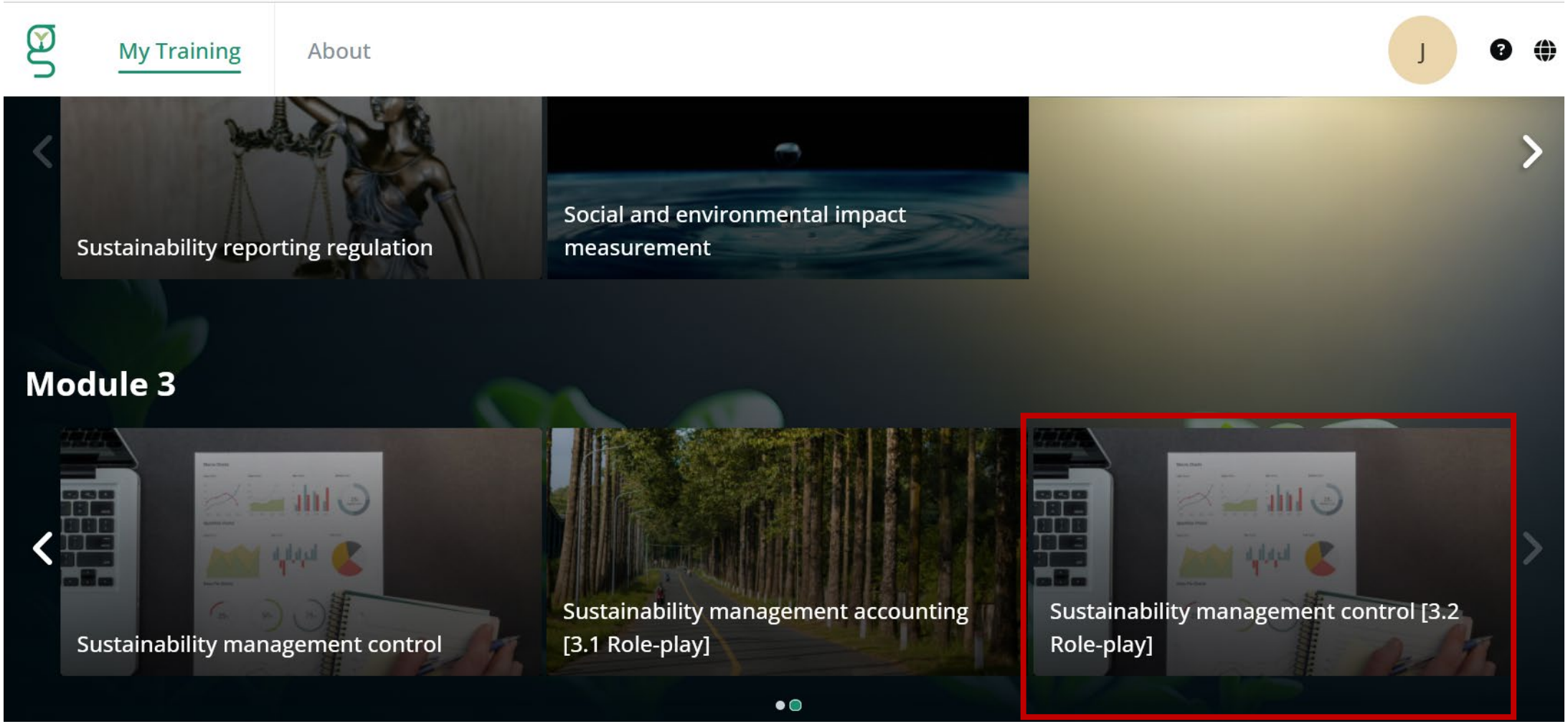
## Scenario (Summary)

You have started a new position as sustainability manager at a large manufacturer in the food industry. When getting to know the company, internal managers and employees have been very forthcoming and transparent about how eco-efficiently their departments are performing, and how they are meeting KPIs outlined in the company‘s SBSC. Even all of the food and beverages offered in the company canteen are of high quality and with a focus on sustainable and regional products.

However, you have started to notice that hardly anyone within the company considers their employer as a sustainable organisation or consciously thinks about the sustainability or un-sustainability of their actions or decisions. Every day you see the SUVs of some of the executives parked by the main entrance, even though you know that some members of the executive team are committed cyclists and never drive a car to work.

How do you approach sustainability management for this company?

# SMC Case study on the Account4GreenEco platform



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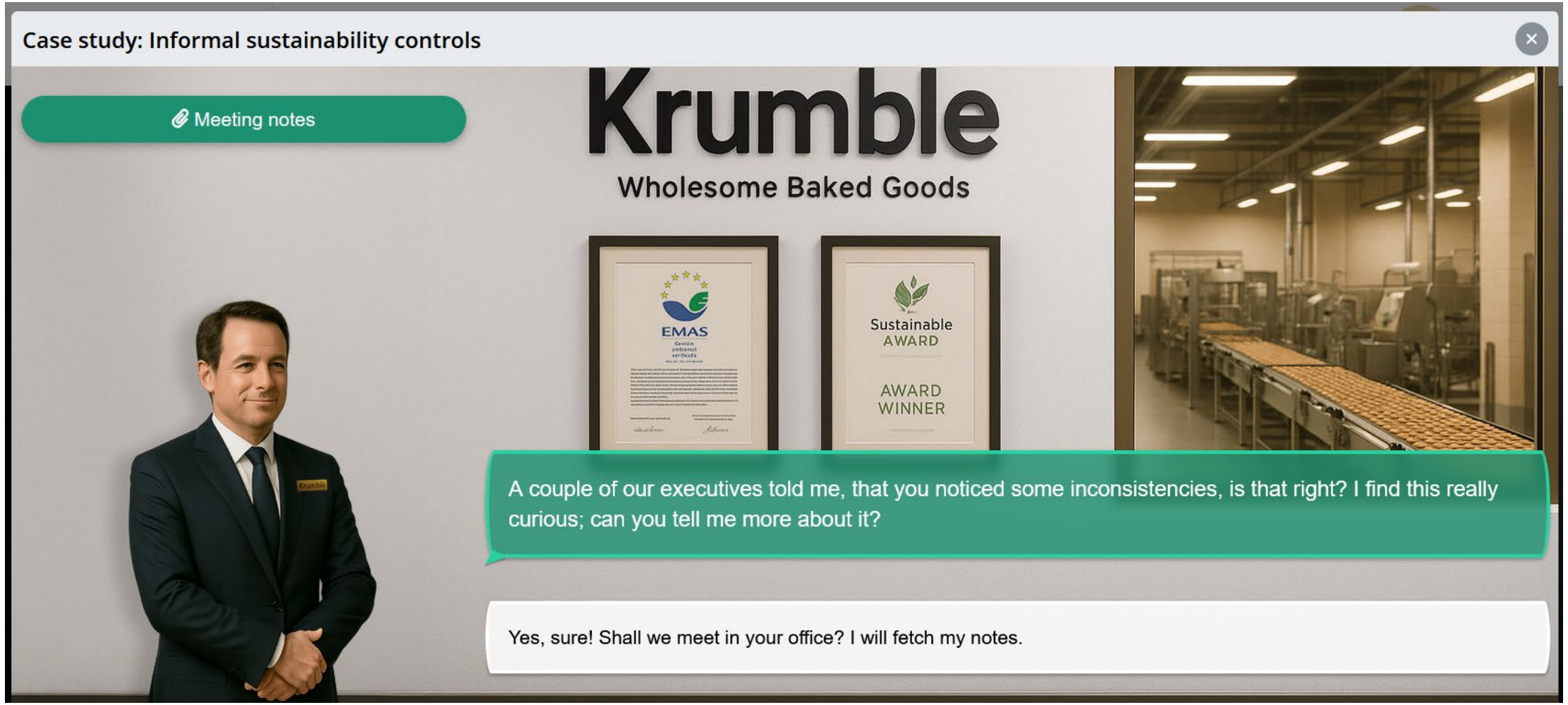
# SMC Case study – How did you go?



# Thank you!

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# Agenda for this afternoon

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# Sustainability awareness Post-activity

## Teaching Activity 3

*Burgos, August 31 – September 4, 2025*

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# You can access the survey here


**20 minutes**

**Direct link:**
https://forms.office.com/e/HJVv2JnQ2d

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# Students' feedback

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# Goals of the Teaching Activity 3


## For Account4GreenEco

- To **validate** the resources and materials integrated into the online platform
- Gather students feedback during the platform's development to test it and ensure its **usability and quality**

## For you

- Develop knowledge of **sustainability accounting**
- Expose yourself to **online learning through gamification**
- Interact in an **international environment**

# We want your feedback

## Online platform


**Direct link:**
https://forms.office.com/e/2nLtk29r2T

## Teaching activity


**Direct link:**
https://forms.office.com/e/Ta4WqfHxT4

**Send your notes: account4greeneco@ubu.es**

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# Closing session

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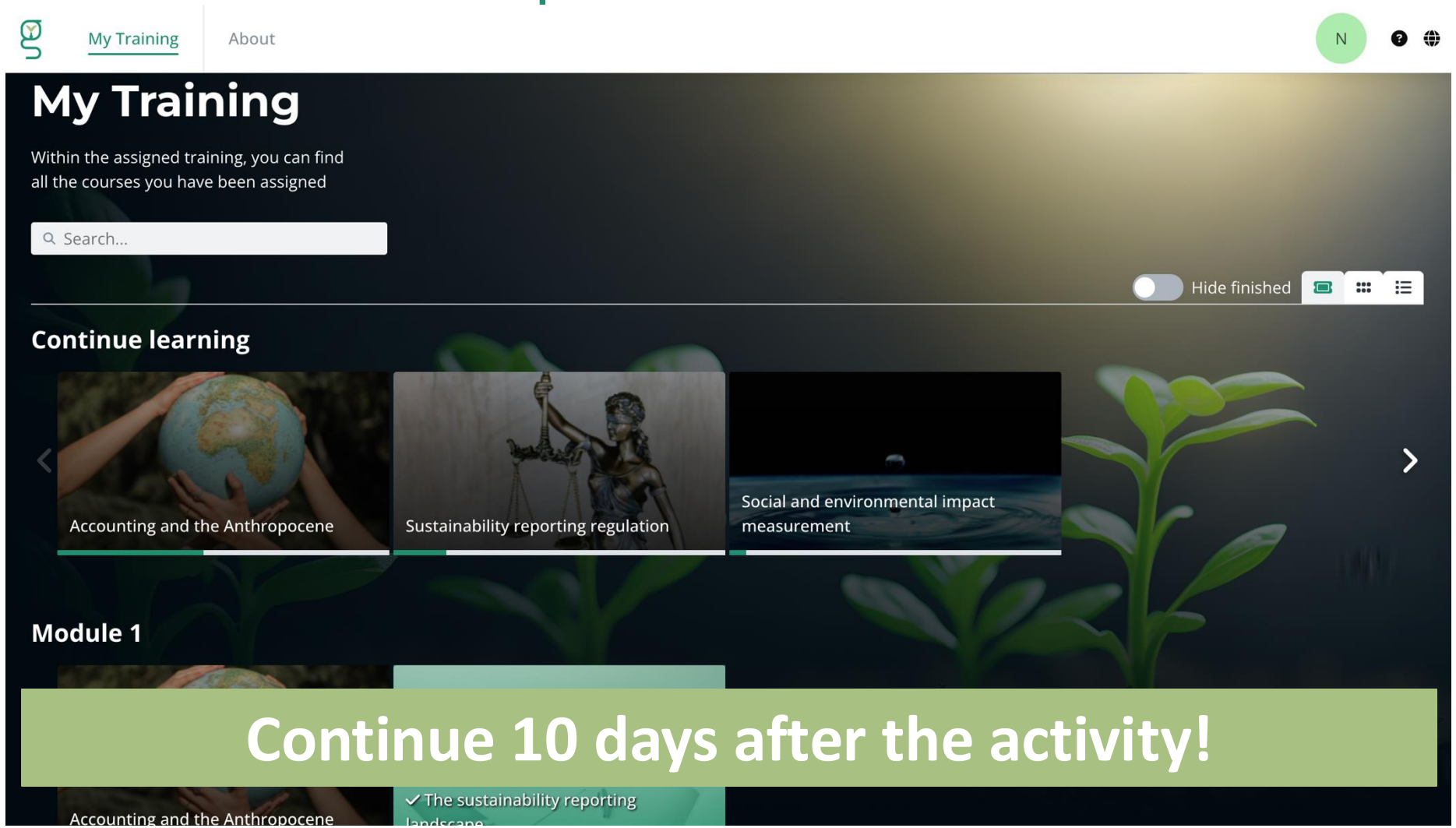
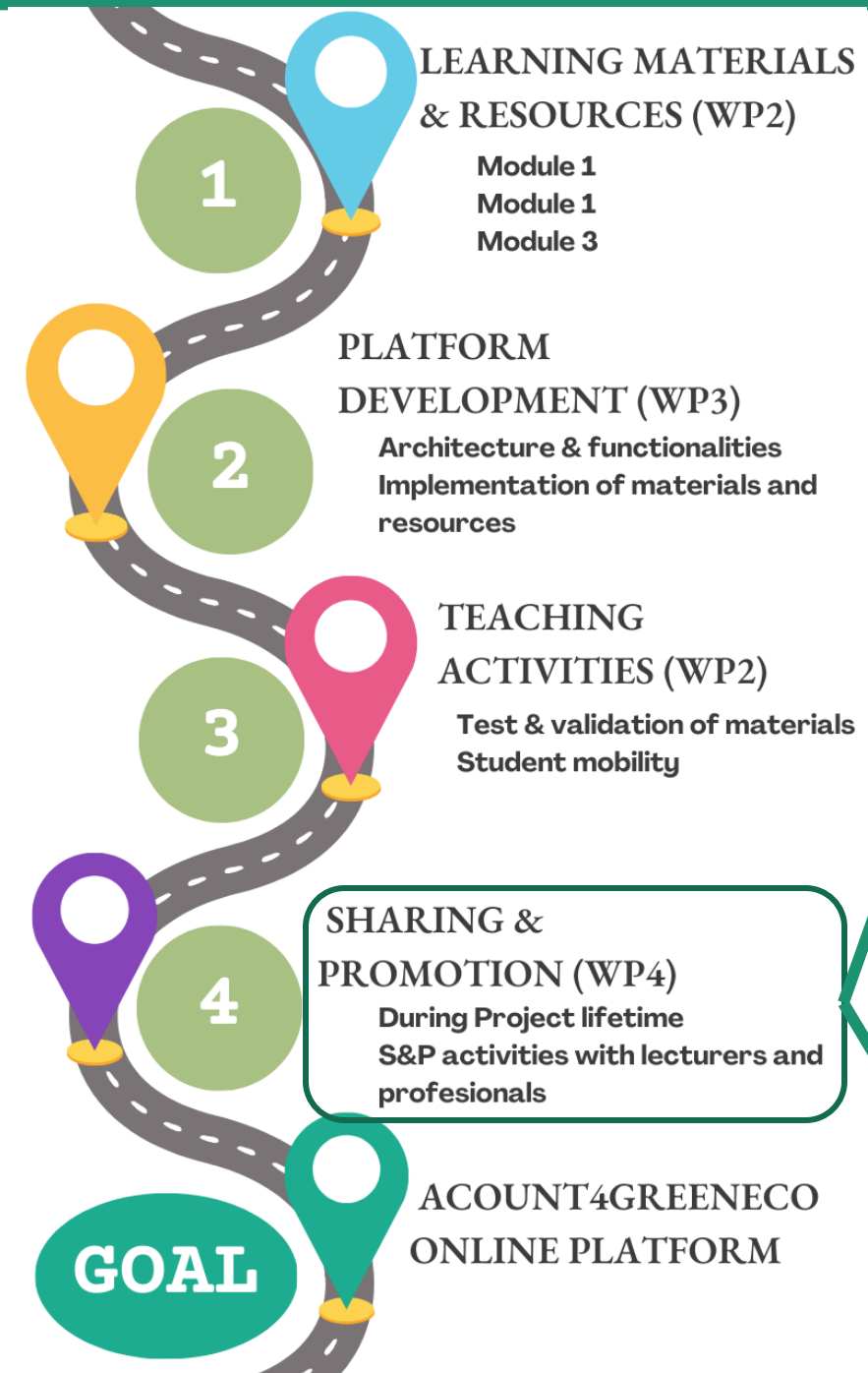
# Use of the online platform



# Account4 GreenEco move to its next phase




**SP1 with lecturers**

Montpellier

October 1 – 3, 2025

**SP2 Closing conference**

Madrid and online

November 13, 2025

# Keep updated on the project development

**@Account4GreenEco project**

## Sign up to our newsletter

Would you like to stay up to date with the Account4GreenEco project?

Subscribe to our newsletter to receive the latest news, events, results and much more!

SUSCRIBE NOW

**www.a4ge.eu/newsletter/**

# Certificates of participation

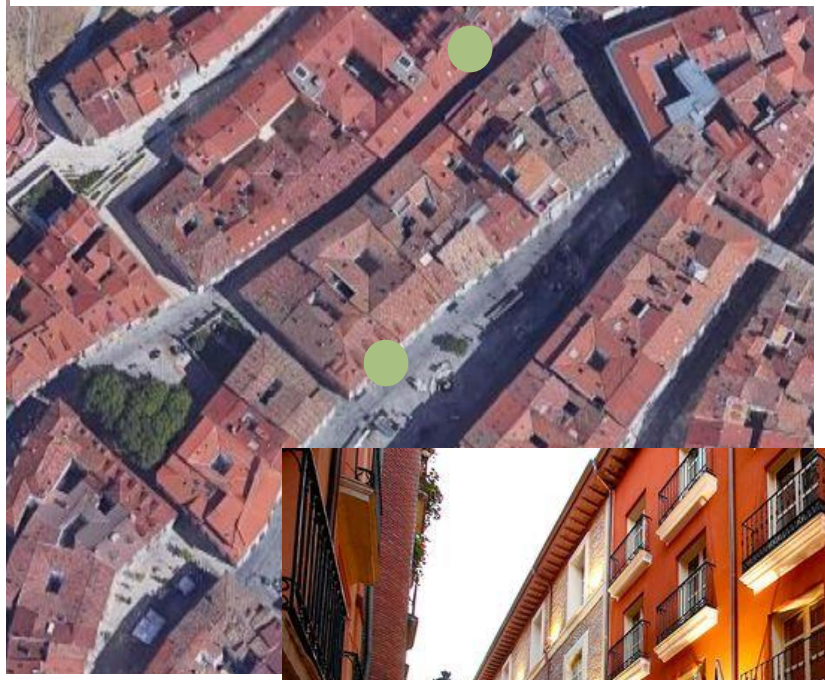
## Requirements

- Attend all sessions (sign attendance list!)
- Fill in the two sustainability awareness surveys and the forms in the specific feedback session

## Reception

- Email with which you register for the activity
- Next week

# Last dinner



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merci
graciñas
eskerrik asko
gracias
danke
grazie

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