# ASSET

Accounting for Sustainability,
Social and Environmental Transparency

# STUDENTS MATERIAL
# TEACHING MODULE 4

## Sustainability, taxation and strategic decision making

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# Matrix Game – Introduction and Context

In the rapidly evolving landscape of the 21st century, universities are increasingly recognized as pivotal institutions in driving the twin transition: the simultaneous shift toward digitalization and sustainability. Universities are not only incubators of knowledge and research that pave the way for a more sustainable future, but they also play a critical role in educating the next generation of leaders, equipping them with the understanding and skills necessary to address global challenges. However, universities themselves are complex organizations with unique sustainability challenges. They must balance their mission of education and research with their operational realities, including financial management, stakeholder interests, and environmental impact.

In October 2023, the European University Association (EUA) introduced a comprehensive Green Deal roadmap for universities, urging them to align their operations with the broader sustainability goals. Yet, the path forward is far from straightforward. A successful green transition within a university involves a multifaceted approach that touches on everything from research practices to campus infrastructure, financial sustainability, and the welfare of students and staff. Universities must also navigate the demands of various stakeholders, including employees, students, the local community, suppliers, and government bodies—each with its interests and then, of course, resources are limited, and priorities must be set…

Besides these, in the context of the European Green Deal, several rules and legislation related to taxation have been developed to support the transition to a greener, more sustainable economy. These measures aim to incentivize environmentally friendly practices, reduce carbon emissions, and generate revenue that can be reinvested into sustainable initiatives (e.g., Carbon Border Adjustment Mechanism (CBAM), Energy Taxation Directive (ETD), Sustainable Finance Taxonomy, Environmental Tax Reforms (ETR), Circular Economy and Waste Taxation, Green VAT (Value-Added Tax) Adjustments, Incentives for Green Investments and Revenue Recycling)[1].

[1] **1. Carbon Border Adjustment Mechanism (CBAM)**

**Overview:** The CBAM is designed to prevent "carbon leakage," where companies relocate production to countries with less stringent climate policies. It imposes a carbon price on imports of certain goods from countries outside the EU that do not have equivalent carbon pricing mechanisms.

**Impact:** Encourages both EU and non-EU producers to adopt greener production methods. It also aligns with the EU's Emissions Trading System (ETS), ensuring that imported goods face the same carbon costs as those produced within the EU.

**2. Energy Taxation Directive (ETD)**

**Overview:** The revised ETD, proposed under the Green Deal, aims to update the taxation of energy products and electricity to better reflect their environmental impact. The directive seeks to shift taxes from labor to pollution, promoting cleaner energy use.

**Key changes:**

**- Minimum Tax Rates:** Introduces minimum tax rates for energy products based on their environmental performance.

**- Fossil Fuel Subsidies:** Gradually phases out tax exemptions for fossil fuels, aligning taxation with the carbon content of energy sources.

**- Encouragement of Renewables:** Lower tax rates for renewable energy sources and electricity to promote their use.

**3. Sustainable Finance Taxonomy**

**Overview:** Although not a tax in itself, the EU Taxonomy is a classification system that defines what constitutes environmentally sustainable economic activities. It guides investment towards greener initiatives by providing clarity on what is considered sustainable.

As a player in this Matrix Game, your challenge is to ensure that your group's needs are met while contributing to the university's sustainable transition in the context of taxation measures and legislative frameworks integrated into the European Green Deal, aiming to align economic incentives with environmental goals, drive sustainable practices across all sectors, and ensure that the transition to a greener economy is fair and just.

Can you ensure that the university undergoes a transition reflecting your group's needs?

## Matrix Game Tasks for Players at

## European Greenridge University

In this matrix game, players will assume the roles of different stakeholders within and around European Greenridge University. Each group has specific objectives, and players will work collaboratively or competitively to achieve these goals while contributing to the university's green transition. The game will require players to strategize, negotiate, and make decisions that reflect the

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**Impact on Taxation:** Influences the development of tax incentives for green investments, such as lower corporate tax rates or tax credits for companies that invest in activities aligned with the taxonomy.

**4. Environmental Tax Reforms (ETR)**

**Overview:** The Green Deal promotes ETRs across EU member states, encouraging them to design their tax systems to support environmental objectives. This includes higher taxes on pollution and resource use, and lower taxes on income and labor.

**Examples of ETRs:**

**- Carbon taxes:** Taxes on greenhouse gas emissions beyond those covered by the ETS.

**- Plastic taxes:** Taxes on the production or use of certain plastics to reduce waste.

**- Waste management levies:** Taxes on landfill use and incineration to promote recycling and reduce waste.

**5. Circular Economy and Waste Taxation**

**Overview:** As part of the Circular Economy Action Plan, the EU encourages member states to use taxation to promote the reuse, recycling, and repair of products. Taxes on raw materials and waste can make circular practices more economically attractive.

**Impact:** These measures aim to reduce the environmental footprint of production and consumption by making waste disposal more costly and recycling more financially viable.

**6. Green VAT (Value-Added Tax) adjustments**

**Overview:** The Green Deal includes proposals to adjust VAT rates to promote environmentally friendly products and services. This could involve reduced VAT rates for products with a lower environmental impact, such as energy-efficient appliances and sustainable building materials.

**Objective:** Encourage consumers to choose greener products by making them more affordable relative to less sustainable alternatives.

**7. Incentives for Green Investments**

**Overview:** Various tax incentives are being considered or implemented to encourage green investments by businesses and individuals. These could include tax deductions, credits, or accelerated depreciation for investments in renewable energy, energy efficiency, and other sustainable technologies.

**Examples:**

**- Corporate tax breaks:** For companies investing in green technologies or sustainable infrastructure.

**- Personal income tax deductions:** For homeowners who invest in energy-efficient renovations or renewable energy installations.

**8. Revenue Recycling**

**Overview:** The revenue generated from environmental taxes, such as carbon taxes, is often "recycled" back into the economy to support green initiatives. This can include funding for renewable energy projects, public transportation improvements, or subsidies for green technologies.

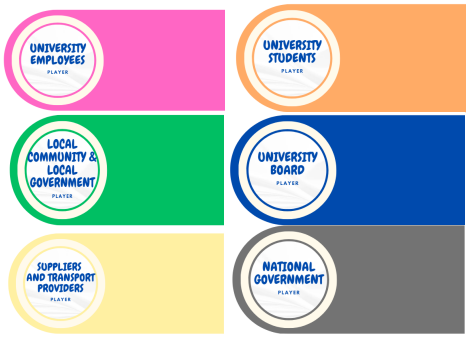
**Purpose:** Ensures that environmental taxes contribute directly to the goals of the Green Deal, creating a virtuous cycle of investment in sustainability.

interests of their assigned stakeholder group by coming up with actions and providing arguments for these actions' success or failure.

**1. Role assignment**

**Students will be divided into six teams representing different stakeholder roles:**

- ✓ **University employees**
- ✓ **University students**
- ✓ **Local community and local government**
- ✓ **University board**
- ✓ **Suppliers and transport providers**
- ✓ **National government**




**2. Objective setting**

- **Each group will receive a set of key objectives that align with their stakeholder's interests.**
    - **University employees:** Secure job stability, improve working conditions, and promote flexible work environments.
    - **University students:** Advocate for enhanced learning experiences, better transportation options, and greater sustainability on campus.
    - **Local community and local government:** Balance economic benefits from the university with community needs, reduce congestion, and improve local services.
    - **University board:** Achieve a successful green transition while maintaining performance and reputation.
    - **Suppliers and transport providers:** Sustain profitability while adapting to the university's green requirements.
    - **National government:** Drive green policies while balancing economic growth and voter satisfaction.

**3. Task 1: Group strategy development**

- **Objective:** Each team must develop a strategy that outlines how they will achieve their goals throughout the game.
  **Steps:**
    - Identify primary and secondary objectives.
    - Brainstorm potential actions that can be taken to achieve these objectives.
    - Anticipate possible reactions from other stakeholder groups.
    - Prioritize actions based on importance and feasibility.
- **Outcome:** Each team will present their strategy to the game facilitator, outlining their key objectives, intended actions and expected outcomes.

**4. Task 2: Negotiation round and action implementation**

- **Objective:** Engage in negotiations with other teams to form alliances, make deals, or set terms for cooperation or conflict, execute the agreed-upon actions from the strategy phase.
  **Steps:**
    - Submit specific actions to the game facilitator, explaining the intended outcome and how it aligns with your group's objectives. Provision of arguments is a must!
    - Approach other groups with proposals that align with mutual interests.
    - Negotiate terms for collaboration, including concessions or trade-offs.
    - Resolve conflicts through mediation or compromise.
- **Outcome:** Signed agreements or memorandums of understanding between groups, or a declaration of opposition if negotiations fail.
- Facilitator determines the success or failure of actions based on game mechanics, such as dice rolls and likelihood assessments. Successful actions advance the group's objectives; failed actions may result in setbacks.

## 5. Task 3: Crisis management

- **Objective:** Respond to unforeseen events or crises introduced by the game facilitator, such as budget cuts, environmental disasters, or public protests.
  **Steps:**
    - Quickly assess the impact of the crisis on your team's objectives.
    - Develop a rapid response plan to mitigate negative effects or capitalize on the situation.
    - Engage with other teams to seek support or share resources.
- **Outcome:** The facilitator evaluates the response as effective, with outcomes affecting the team's standing and progress in the game.

## 6. Task 4: Final presentation and reflection

- **Objective:** Summarize your team's achievements, setbacks, and the overall impact of your actions on European Greenridge University's green transition.
  **Steps:**
    - Prepare a brief presentation detailing the strategy, actions, outcomes, and lessons learned.
    - Reflect on the group's collaboration with other stakeholders and the challenges faced during the game.
    - Discuss what you would do differently if given the chance.
- **Outcome:** Groups present their findings to the facilitator and other participants. The facilitator provides feedback and awards points based on achieving objectives, creativity, and strategic thinking.

## Game mechanics

- **Dice rolls:** Success or failure of actions is determined by likelihood assessment and dice rolls, reflecting the inherent uncertainties in real-world decision-making.
- **Resource management:** Groups have limited resources (e.g., budget, time, influence) and must allocate them wisely to maximize their impact.
- **Impact assessments:** The facilitator will assess the impact of actions based on their alignment with the university's sustainability goals and the reactions of other stakeholders.

**Game conclusion**

- The game concludes when all teams have completed their final statements.
- The facilitator will provide a debrief, discussing the overall outcomes of the game, the interplay between stakeholder teams, and the lessons learned about sustainability, taxation and strategic decision-making.
- The group with the most points, reflecting successful achievement of their objectives and positive contributions to European Greenridge University's sustainable transition, will be declared the winner.

# University's background

*„More than a university—driving change for a sustainable, prosperous future for all"*


| **University Name:** | **University Data:** |
|---|---|
| **European Greenridge University**<br><br>**Location:**<br><br>**Lindenbrook**, a vibrant, medium-sized town in the middle of Europe, nestled near the Harz Mountains.<br>Lindenbrook is known for its lush green landscapes, historical architecture and commitment to sustainability. | **Founded:** 1854<br><br>**Type:** Public Research University<br><br>**Campuses:** 4 (Main Campus in Lindenbrook, Satellite Campuses in Wernigerode, Halberstadt, and Blankenburg)<br><br>**Student Population:** 20,000<br>• **Undergraduates:** 15,000<br>• **Postgraduates:** 5,000<br>• **International students:** 3,500 (from over 80 countries)<br><br>**Faculty and staff:** 3,000<br>• **Academic staff:** 2,000<br>• **Administrative and support staff:** 1,000<br><br>**Annual budget:** €250 million<br><br>**Research funding:** €75 million annually, focusing on |

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| | environmental sciences, renewable energy, digital innovation and social sustainability. |
| **Sustainability initiatives:**<br><br>Committed to achieving net-zero carbon emissions by 2035.<br><br>European Greenridge University is home to the **Institute for Sustainable Futures**, which leads cutting-edge research in renewable energy, sustainable urban planning, and environmental policy.<br><br>**Eco-Transport Program:** A fleet of buses connecting all campuses and town centers, with plans to expand the eco-transport.<br><br>**Green Campus Initiative:** 30% of energy needs are met through renewable sources, with ongoing projects to achieve 100% by 2030. | **Unique Selling Points (USPs):**<br><br>**Reputation:** Ranked among the top 200 universities globally, with a strong emphasis on sustainability and digital innovation.<br><br>**Sustainability leadership:** Recognized by the European Commission for its pioneering role in the Green Deal for Universities.<br><br>**Innovation Hub:** Host the annual International **Greenridge Sustainability Summit**, attracting global thought leaders in sustainability, technology, and policy.<br><br>**Community engagement:** Strong partnerships with local businesses and the Lindenbrook town council, fostering a collaborative approach to sustainability and economic growth. |

**University's constraints during the last period:**

European Greenridge University is not just a place of learning but a catalyst for change, dedicated to leading the charge toward a sustainable and prosperous future for all. Besides this, the transition to the European Green Deal involves various constraints:

1. **Limited funding**: The university relies on reduced government funding, limiting available resources for necessary sustainable investments.
2. **Tax incentives:** The lack of clear tax incentives for sustainable practices inhibits the university from investing in green technologies or infrastructure.
3. **Higher tax burdens:** As the university attempts to fund its transition to sustainable practices, it faces higher operating costs and taxes, especially if it needs to upgrade facilities or invest in renewable energy sources without sufficient financial support.
4. **Administrative complexity:** Navigating new tax regulations and incentives related to the Green Deal creates administrative burdens. The university needs additional staff or resources to manage compliance and optimize tax benefits.
5. **Long-term investment vs. short-term costs:** The University struggles to balance the immediate costs of transitioning to sustainable practices with the long-term financial benefits, impacting its willingness to engage in green initiatives.
6. **Impact on tuition and fees:** To cover the costs associated with transitioning, the university is feeling pressured to increase tuition and fees, which could deter potential students and exacerbate issues of accessibility.

# Scenario overview

In this game, you will take on the role of one of the key stakeholder groups within the university. Each group has distinct objectives and strategies they can employ to influence the university's green transition. Success in this game requires careful negotiation, strategic action and the ability to anticipate the moves of other stakeholders.



## Player – University employees

**Group description:**

You represent the employees of the university ranging from the faculty to administration. Yes, there are divisions in interest among the departments, research and teaching, administrative and academic staff. However, there are also key concerns that are relevant for every employee.

The university has different campuses, and it can be a pain when you need to go from one to the other, especially during rush hours. And maybe some days, it would be fine simply to work from home?.. Both academic and non-academic staff also want more opportunities to network and improve their skills (that's also relevant for sustainability!). While some programs for this are already in place, the general feeling is that they are lacking. Finally, salaries have not kept up with recent inflation in Europe. This increases dissatisfaction among employees as well.

**Key objectives**:

Throughout the game try to achieve the following objectives:

- ✓ Full academic staffing complement to share the teaching burden and free up time for research and professional engagement;
- ✓ Job security, inflationary and merit-based increases in salaries;
- ✓ Flexible working opportunities;
- ✓ Quality student recruitment with good attendance and engagement;
- ✓ Easier commuting to, from and between university campuses;
- ✓ Support for international travel, networking, and training opportunities.

**Action examples:**

- **Action**: threaten the university board with a strike unless the teaching burden is reduced by 20% lower mandatory hours.
  **Intended result**: more time for research and professional engagement, staff satisfaction.

- **Action:** threaten the university board with a strike unless professional and academic salaries are increased by 10%.
  **Intended result**: make up for the erosion of wages due to recent inflation.



# Player – University students

**Group description:**

You represent the students at the university. Yes, there are divisions in interests among the departments, undergraduates and graduates, locals, and exchange visitors. However, there are also key concerns that are relevant for every student.

The university has different campuses, and it can be a pain when you need to go from one to the other, especially during rush hours. And maybe some days, it would be fine simply to connect to lectures from home?..

**Key objectives**:

Throughout the game try to achieve the following objectives:

- ✓ Free commuting to, from and between university campuses;
- ✓ Provision of cheap/reliable/safe transport at night;
- ✓ Quality education resulting in a degree with enhanced employability skills;
- ✓ Flexible and productive engagement in seminars and lectures;
- ✓ Enhanced social and professional networking opportunities;
- ✓ University embracing sustainable practices.

**Action examples:**

- **Action**: create a student sustainability association that would work on improving sustainability across the university, including mobility.
  **Intended result**: established student sustainability association and significantly reduce carbon footprints.

- **Action:** putting pressure on the university to redesign course content and delivery so it is more accessible to a generation that would rather not have such a rigid timetable or be taught in didactic old-school methods.
  **Intended result:** enjoy a more dynamic, personally flexible learning experience.

# Player – Local community and local government

**Group description:**

You represent the local community and government of the town where the university is located. Of course, the community is diverse in terms of class, custom and religion. However, some issues are relevant for the majority.

First, there are huge problems with local traffic and not only during the rush hours with the university playing a significant part with 20,000 students and 3,000 staff. The local community is also worried about economic issues. On the one hand, students tend to take up part time jobs, significantly reducing job opportunities for residents in the community. On the other hand, the students contribute over €1 million a year to the local economy and businesses are thriving, especially during term times. Despite this, the presence of so many new residents put a strain on local services (transportation, medical, waste removal, etc). And it must be said, not all students are respectful of the local residents late at night, when they are walking home from the clubs and parties. If the local community isn't happy, then the local government will face challenges in the upcoming election...

**Key objectives**:

Throughout the game try to achieve the following objectives:

- ✓ Decrease in traffic congestion;
- ✓ Balanced economic benefits and needs of the community;
- ✓ Reduced pollution (litter and noise);
- ✓ Better provision of local services (more consistent throughout the year);
- ✓ More opportunities for residents and businesses to engage with the university.

**Action examples:**

- **Action:** conclude an agreement with the bus company for reduced prices for commuting using electric vehicles.
  **Intended result:** agreement signed with at least one company.

- **Action:** pass legislation that introduces fines for those that litter or exhibit other forms of anti-social behaviour (like noise between midnight and 6am).
  **Intended result:** a cleaner environment and respectful neighborhoods.

# Player – University board

**Group description:**

You represent the board of the university. Among your key interests are ensuring a successful green transition of the institution. Not only will this be a significant move towards net zero emissions, but early action would also have reputational benefits, increasing international prestige and giving it an immediate competitive advantage. However, you must also consider the broader needs of university stakeholders, and resources are limited. Students want some changes, employees want others, then there is the community to consider…

**Key objectives**:

Throughout the game try to achieve the following objectives:

- ✓ Gaining competitive advantages through USPs, reputation/profile enhancements and positional improvements in world-wide university rankings;
- ✓ Increased profitability through growth and innovation;
- ✓ Increased profitability through cost savings through efficiencies (potential staff-reductions through transformative learning opportunities);
- ✓ Reduction in carbon footprint (net-zero by 2035) invest in greener infrastructure (buildings, energy, transportation, etc.);
- ✓ Introduce greener practices and incentivize greener behaviours (commuting, reduction in business travel);
- ✓ Lobby for direct or indirect government support for sustainability-relevant activities.

**Action examples:**

- **Action:** reduce workforce by 25%.
  **Intended result:** lower workforce and lower costs for the university.
- **Action:** Secure government funding and partnering with the local bus company to roll out a fleet of electric buses with increased capacity.
- **Intended result:** Significant reductions in carbon emissions and traffic congestion.



# Player – Suppliers and transport providers

**Group description:**

You represent a broad group of suppliers and service providers for the local community, including the university. Of course, different suppliers may have different interests, and some may be more interested in sustainability than others. However, there are challenges and interests that are quite common for the group. How quick does the university want the transition to be? It puts additional pressure on you. How can you cover the costs related to meeting the changing university needs? The transportation service providers also feel the pressure. First, to provide sufficient service. Second, to ensure that it is sustainable.

**Key objectives**:

Throughout the game try to achieve the following objectives:

- ✓ Maintain / increase profitability;
- ✓ Reduce business expenses including corporate taxes;
- ✓ Ensure that the university (and its staff and students) keeps buying their products / services;
- ✓ Get financial support from the government for a green transition.

**Action examples:**

- **Action:** update transport fleet to increase the number of electric buses by 30%.
  **Intended result:** more electric buses in the fleet, increasing transport provider sustainability level.
- **Action:** lobby government on financial support from green transitioning.
  **Intended result:** Secure government funding or tax breaks for green transitioning

# Player – National government

**Group description:**

You represent the government. You have an obligation and will to support the green transition. At the same time, you must care about reelection. And it's the local community which will be the most relevant for this. The two goals of driving sustainability and reelection are not necessarily exclusive but balancing them can be challenging.

**Key objectives**:

Throughout the game try to achieve the following objectives:

- ✓ Develop measures for green transition (net-zero by 2050, if not earlier);
- ✓ Incentivize businesses and individuals towards green transitions;
- ✓ Grow the economy (and the tax-intake) through innovation and low unemployment;
- ✓ Increase the likelihood of reelection.

**Action examples:**

- **Action:** Increase public finances through environmental taxation, targeting those with large carbon footprints.
  **Intended result:** increased revenues in the short term, ultimately meeting the national net zero commitment and increasing political support before the upcoming election.

- **Action:** Encourage green transitioning of individuals and businesses with financial incentives through direct funding schemes or tax breaks.
  **Intended result:** facilitating green transitioning and increasing political support before the upcoming election through positive action in the green agenda.