



GreenCity Lab



Main topic & European value

- ◆ **Core topics:** Sustainable consumption and the circular economy: rethinking production, waste and individual choices.
- ◆ **European values:** Sustainability, protect and improve the quality of the environment



Educational objectives

- ✓ Identify the hidden environmental costs behind everyday products.
- ✓ Explain how production, transportation, consumption and waste can contribute to a product's carbon footprint.
- ✓ Apply sustainable decision-making strategies in everyday consumer choices.



Scenario overview

Year 2040. Brigit, a final-year university student, is conducting a bachelor's Thesis (TFG) on "Sustainable Consumption and the Circular Economy".

To complete the research, they travel to GreenCity, a community transitioning from a traditional linear economy to a circular one based on reuse, repair, and recycling.

Throughout the journey, Brigit investigates sustainability challenges, interviews citizens, experts, business owners, and local authorities, while also exploring the environmental impacts of everyday products. By analysing different perspectives and solving real-world problems, they learn how consumption habits, waste management, and business practices affect the environment.

Through these experiences, Brigit discovers that achieving sustainability requires both responsible individual choices and broader systemic changes, providing key observations for their thesis and a more sustainable future.



Core mechanics & tasks

- ◆ Main Gameplay Mechanics:
 - Decision trees
 - Mini quizzes
 - Carbon footprint calculator
- ◆ **1. From production to consumption: The true cost of fashion**
 - Follow a pair of trousers from raw materials to disposal and discover its water footprint.
 - Compare fast fashion with sustainable alternatives, balancing cost, satisfaction and impact.
 - Answer quizzes and make purchasing choices with different prices, durability and sustainability scores.
 - Calculate your environmental footprint and see how consumer choices shape sustainability.
- ◆ **2. Building a circular future: Repair, reuse and community action**
 - Decide whether to repair or replace damaged products.
 - Invest in community initiatives like repair cafés, recycling centers and sharing platforms.
 - Manage limited resources while reducing waste and improving sustainability.
 - See how your choices affect budgets, citizen satisfaction and circularity.
- ◆ **3. Reduce the city's carbon footprint**
 - Cut emissions while maintaining public support and economic stability.
 - Implement policies and sustainable projects to reduce environmental impact.
 - Balance environmental goals with citizens' needs.
 - Every decision shapes emissions, approval and the city's future sustainability.



Player role

Brigit is a final-year university student conducting a bachelor's thesis (TFG) on "Sustainable Consumption and the Circular Economy, whose name is: "Rethinking Production, Waste, and Individual Choices". Throughout the journey, they face different challenges and meet experts, citizens, and business owners who help them understand sustainability, waste management, and responsible consumption.

Motivations:

- Complete their research project successfully.
- Learn how sustainable consumption can reduce environmental impact.
- Understand the role of individuals and businesses in a circular economy.
- Promote more sustainable habits and decision-making.

Agency:

- Investigate real-world sustainability challenges.
- Analyse information and draw conclusions for the thesis.
- Interact with different stakeholders and learn from their experiences.
- Apply acquired knowledge to solve problems and make informed decisions.



NPC profiles

Name	Role in the story & function in the gameplay	Personality traits
Bea	Role in the story & function in the gameplay	Knowledgeable, patient, analytical
Leo	Mentor and environmental scientist	Practical, profit-oriented, sceptical
Mr. Novak	City council representative	Strategic, cautious, politically minded



Dialogue options, choices & consequences

Dialogue or dilemma	Options available (2-3)	Short-term & long-term consequences
A retailer proposes a large fast-fashion sales event, and denies that large amounts of water are used to produce that clothing	○ Approve the event. ○ Limit the event to promote sustainable brands and investigate. ○ Investigate and show everyone how much water it's used to produce a simple pair of trousers.	Short-term: A: Increased citizen satisfaction. B: Mixed public reaction. C: Lower profits initially.
A community programme must decide whether to replace or repair old smartphones.	○ Purchase new phones for everyone ○ Repair existing phones by yourself ○ Invest in creating a repair cafe	Short-term: A: Fast solution; B: Lower environmental impact; C: Higher initial investment. Long-term: A: Increased emissions and e-waste; B: Not sustainable for long time; C: Creation of circular economy benefits and new jobs.
The mayor wants to make the city greener by expanding green areas and banning high-emission vehicles from the city centre. The goal is to reduce pollution, improve air quality and create a more sustainable environment.	○ Be against it ○ Understand the environmental benefits but do it gradually. ○ Fully support the initiative.	Short-term: A: Doesn't have to invest money. B: Little investment of money and would take more time. C: Strong investment. Long term: A: Future environmental problems, B: Reduced waste generation; C: Lowest long environmental impact



Summary, debriefing & reflection questions

- ◆ At the end of the game, players receive a report showing:
 - Their total carbon footprint impact.
 - Waste generated or avoided.
 - Circular economy score.
 - Citizen satisfaction level.
- ◆ Which of your decisions had the greatest environmental impact?
- ◆ How does the carbon footprint of a product change throughout its lifecycle?
- ◆ Why is fast fashion considered environmentally unsustainable?
- ◆ What are the advantages of repairing products instead of replacing them?
- ◆ How does the circular economy differ from the traditional linear economy?



References & additional resources

- ✦ European Environment Agency (Circular Economy)
<https://www.eea.europa.eu/en/topics/in-depth/circular-economy>
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- ✦ United Nations Sustainable Development Goal 12
<https://www.un.org/sustainabledevelopment/sustainable-consumption-production/>
- ✦ Ellen MacArthur Foundation. (2023). *Completing the picture: How the circular economy tackles climate change*.
<https://www.ellenmacarthurfoundation.org/completing-the-picture>



- ✦ European Commission. (2024). *Circular Economy Action Plan*.
https://environment.ec.europa.eu/topics/circular-economy-topics/first-circular-economy-action-plan_en
- ✦ United Nations Environment Programme. (2024). *Sustainable Consumption and Production Policies*.
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