



Co-Creating Circular
Resource Flows in Cities

constRuctive mEtabolic processes For materiaL fIOWs in
urban and peri-urban environments across Europe

A REFLOW CASE STUDY

TEACHING GUIDE: Vejle's Road to Becoming a Circular Plasti-city

**Implementing Circular Plastic Interventions in a Key Focal
Area**



*This project has received funding from the European Union's Horizon 2020
research and innovation programme under grant agreement number 820937.*

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Implementing Circular Plastic Interventions in a Key Focal Area



Figure 1: Photo by [Aleksandra Tsvigun](#) on [Unsplash](#)

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Synopsis of the Case

This case is based on a real organisation that has carried out activities as part of the European Union Horizon 2020 project, REFLOW.

The protagonists in this case are the Vejle pilot team. The team needs to choose one particular focal area, namely a specific industry with a respective micro-test site where they will develop and implement a circular intervention to close the loop on their circular plastic streams in the city. The team has four key focal areas, each targeting a specific industry (construction, food retail, healthcare, and households) which is paired with a micro-test site where the team will carry out their circular intervention. Each key focal area/test site is unique and targets certain demographics, types of plastics, and has their own challenges.

The case goes over key insights that feed into the decision-making process of the Vejle team. The ultimate goal for the Vejle team is achieve a circular plastics in the city. In order to do this, they are implementing this small experiment, but want to ensure that while this is a micro-test that it is still impactful in the long-term, can reach short-term targets, and can also be scaled in the future to help to foster further circular transitions across the city, the region, and beyond.

This is a decision-based case. It asks the students to step into the shoes of the Vejle pilot team. The case study challenges students to formulate recommendations regarding which key focal area the pilot should choose and why.

Target Group

The case is suitable for undergraduate and graduate levels in project management, strategic management, circular economy, and sustainability courses.

Learning Objectives and Key Issues

The learning objectives of the case sets out for students to evaluate circular intervention options for plastic material flows that would lead to long-lasting impact, short-term project goals, and be scalable. After completion of the case, students should be able to understand the following:

- The plastic problem in Denmark and Vejle, including understanding different plastic types, use, and characteristics
- Environmental impacts of different plastics types – both in regard to production and waste management
- Plastic use and waste management across sectors
- Circular economy as a solution



- Assessing a portfolio of projects and seeing how they fit the goals of the REFLOW Vejle pilot organisation

The case also allows students to make their own assessments of the possible focal areas for circular plastic interventions by analysing the contexts of each area and its respective test site. Furthermore, the students are also challenged to understand and prioritize their decisions based on targets and goals of the pilot team within REFLOW and for the future of Vejle.

Students can also be asked to evaluate the scalability and replicability of these place-based solutions and how they could be translated into other contexts.

Relevant Readings

- Waste prevention and management. European Commission.
https://ec.europa.eu/environment/green-growth/waste-prevention-and-management/index_en.htm#:~:text=The%20Directive%20defines%20a%20hierarchy,be%20the%20very%20last%20resort.
- Find information about the Vejle REFLOW pilot on the REFLOW website. There are articles and an overview of the challenge and solutions the pilot is working on. Access [here](#).
- Plastics and the circular economy. Ellen MacArthur Foundation.
<https://ellenmacarthurfoundation.org/topics/plastics/overview>.
- Levoso, A. S., Gasol, C. M., Martínez-Blanco, J., Durany, X. G., Lehmann, M., & Gaya, R. F. (2020). Methodological framework for the implementation of circular economy in urban systems. *Journal of Cleaner Production*, 248, 119227.

Teaching Strategy

The case should take approximately 90 minutes to present, discuss, and solve. Students (individually or in groups) can discuss the discussion questions.

Topic	Time (minutes)
Introduction	10
Discussion Question 1	10
Discussion Question 2	10
Discussion Question 3	30
Discussion Question 4	10
Discussion Question 5	10
Conclusion	10



The case aims to challenge students to a real-life case study where they must demonstrate and practice their analytical abilities to assessing and making a decision in the field of sustainability and circular economy.

Discussion Questions

1. What are the problems associated with plastic production and waste? What are the environmental and health impacts associated with the different plastic types in production and waste management?
2. What are the goals of the Vejle pilot team?
3. What are the options for the Vejle pilot team? What are the pros and cons of each option – across sectors?
4. Is the micro-test site approach a good strategy for cities to transition towards becoming circular within their material streams?
5. Should the pilot team focus on the focal area where the most plastic is being generated (volume) or should they focus on the focal area where there is the most environmental and human health impact?
6. What about the production of plastics? Should this be a key focal area within the pilot's options?

Additional Discussion Questions

What were the trade-offs within each focal area? Were there any synergies among them?

Were some options better for certain impact generating conditions, if so, what?

Was there a fundamental conflict between their short- and long-term goals?

Multimedia

REFLOW Introduction to the Vejle Pilot

<https://www.youtube.com/watch?v=dfUHvcVN0fU>

