



POLITECNICO  
DI TORINO

# Honors thesis

COURSE IN TERRITORIAL, URBAN, ENVIRONMENTAL  
AND LANDSCAPE PLANNING

*Abstract*

**CAN WASTE BECOME A RESOURCE?  
DEVELOPMENT AND ANALYSIS OF ECO-INNOVATIVE  
SOLUTIONS IN THE CITIES OF HAMBURG AND TURIN**

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Since the Industrial Revolution, our economy has followed a linear path, based on the principle “take, make, use, dispose”. However, the climate change, the depletion of natural resources, and biodiversity loss caused by this system have highlighted its unsustainability and the need for new systems of growth. The term circular economy has emerged from the debate as a new model of sustainable growth in which the life cycle of resources and products is extended, minimizing the waste production. The transition to a circular economy shifts the focus to avoidance, reuse, repair, renewed and recycling practices. From this perspective what used to be considered as waste can be transformed into a resource.

To reach a circular economy, the eco-innovation is one of the key aspects. The eco-innovation regards all forms of innovation and progress towards the goal of sustainable development. This responds to the need of new model and technologies to manage and create a sustainable environment.

Accordingly, the purpose of the thesis is to demonstrate how a waste can be consider a resource through the application of an eco-innovative solution developed within the European project REPAiR to two cities. Starting with a review of circular economy and urban metabolism concepts and approaches, the attention shifts to two case studies in the city of Hamburg and Turin. The two case studies allow to apply the concepts so far described to a concrete example. The purpose of the development of an eco-innovative solution is to implement the circular economy locally, demonstrating how a waste can be consider a resource. Moreover, its analysis allows to understand the effects that this solution could have on the waste management system.

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