

Cities on Circular Economy: Urban Strategies based on the study of pioneering local experiences

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Abstract. Today's society is in a critical situation: the prevailing linear model of the economy has led to an overexploitation of natural resources, and it has generated environmental impacts that affect the health of all living beings. An economic model of a cyclical nature, or circular economy, is presented as a solution in this situation. This form of economy facilitates the optimization of the useful life of materials, reducing the environmental impact, allowing products and materials to retain their value throughout the production and use cycle. The main purpose of this work is to identify urban strategies carried out by local experiences in pioneering cities that are actively committed to the development of a circular economy as an economic model of society. Cases such as Amsterdam, London, Paris or Milan stand out. The ultimate goal is to show examples that can inspire other cities and local governments to implement measures towards this new model of economy and urban development. The study of local cases throughout the strategies carried out has made possible to establish relationships between the different experiences analysed and to identify the areas with the greatest development and those in which there is less experience. Efficient waste management is one of the most explored areas and where a greater number of local initiatives have been identified. But alongside this, there are other areas that need to be explored: the efficient management of water resources, energy, or food in the city. In response to these, some urban strategies stand out: regeneration of public spaces, sustainable mobility infrastructures, renaturation of urban environments, urban limits, integration of pre-existences, citizen participation and governance are some of them. The contribution of the work focuses on the identification and classification of a whole series of urban strategies already implemented for their possible transfer to other environments.

1. Introduction

During the last decades, the consumption of raw materials has reached a rate that, without a doubt, compromises the load capacity of the planet if the current linear model of production and consumption cannot be stopped or changed. The uncontrolled use of the finite resources of nature endangers their availability for the future, in addition to receiving negative impacts on the environment. The linear scheme prevailing in society as an economic model, based on the extraction, consumption and elimination of products and materials is not sustainable over time. The large number of products and materials that are destined to become a landfill deposit, instead of reincorporating them to productive circuits, leads to the depletion of systems in nature. The antagonism between human beings and the