



Politecnico  
di Torino

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# Honors Thesis

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Master's degree programme in  
**TERRITORIAL, URBAN, ENVIRONMENTAL AND LANDSCAPE  
PLANNING**

**Abstract**

## **Mainstreaming climate change responses into urban planning**

The case of Lisbon

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The last decades have been characterised by an increase in the average temperature of the earth's surface. Climate change has become increasingly relevant and a worrying phenomenon worldwide, contributing to the rise in the frequency of extreme weather events that affect human life and the safety of people and properties and the balance of ecosystems.

Although mitigation interventions are the critical element to limit the effects of climate change in the long term, immediate interventions are needed to respond now to the impacts of climate change. In this context, the focus on adaptation solutions has increased. This research highlights the integration of adaptation into planning as an effective way to respond to climate change. Thus, the research starts with a purely theoretical introduction. The need for urgent intervention through adaptation measures is highlighted. The local level is highlighted as a critical space for effective intervention since it is the scale where impacts occur, and interdependencies are more easily recognisable.

It also highlights the role of cities, both victims and responsible for the problem, and their potential to promote adaptation through land-use planning. In this framework, an analysis of local climate plans is made, highlighting the need to strengthen the integration process, which in theory is very valid conceptually, but with limited implementation. This was the starting point to investigate how this approach is being implemented in Portugal, more precisely in Lisbon. It is a multi-scale analysis that aims to study adaptation from the national to the city scale. Adaptation is initially analysed at the national level through local plans, strategies and policies. It goes through a vertical coherence and horizontal integration process, highlighting the strengths and weaknesses of the Portuguese adaptation planning system understanding how integration is done in practice.

Subsequently, in the second part of the document, through a downscaling procedure, the measures implemented in Lisbon are analysed, studying the municipality's strategy and actions and their relationship with the recognition achieved as European Green Capital 2020. Finally, the Alcântara Valley Green Corridor is selected as an object of a detailed study to verify how the measures are being implemented.

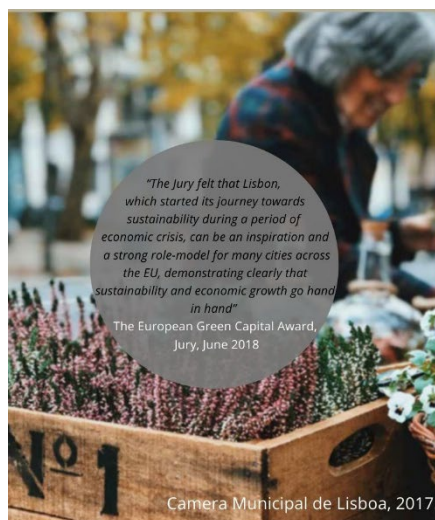
With the support of CEDRU and the Lisbon Municipality in developing this analysis, we tried to put into practice the theoretical principles, assuming that a project of thematic nature, like the one selected, can contribute to the adaptation to climate change. The final aim of this work is to understand the reasons why Lisbon can truly be described as climate proof. In order to achieve this, it was investigated whether climate policies were already embedded and integrated within the various fields, in particular spatial planning, or whether a specific sector focused only on climate change was created.

Increase of 20% of green infrastructures with important consequences on transversal factors



Interventions based on ecological principles (nature-based solutions)

All this has contributed to the recognition of Lisbon as the Green Capital 2020.



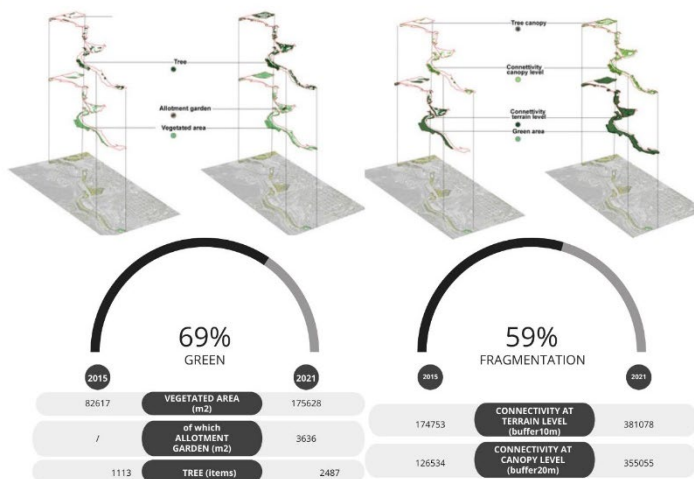
**European Green Capital 2020**  
**“Escolher evoluir”**  
 Lisbon was the first capital of a southern European country to achieve the distinction of European Green Capital, a recognition of the journey made but also of the vision for the future.

from being a car-centric city to prioritise and normalise public transport, walking and cycling

## Indicators

### SELECTION:

- **EKLIPSE** which intends to support the climate resilience of urban areas through the use of NBS provides a series of indicators for the evaluation of measures;
- **Lisbon Biodiversity Plan 2020** is intended as a tool for implementing policies related to the theme of biodiversity and at the same time enhancing it at the urban level.



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