



**Politecnico  
di Torino**

# **Honors Thesis**

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**Master of Science in Sustainable Architecture**

**Abstract**

**Cities as a Renewable Resource. Explorations for Biella between Plans and Project**

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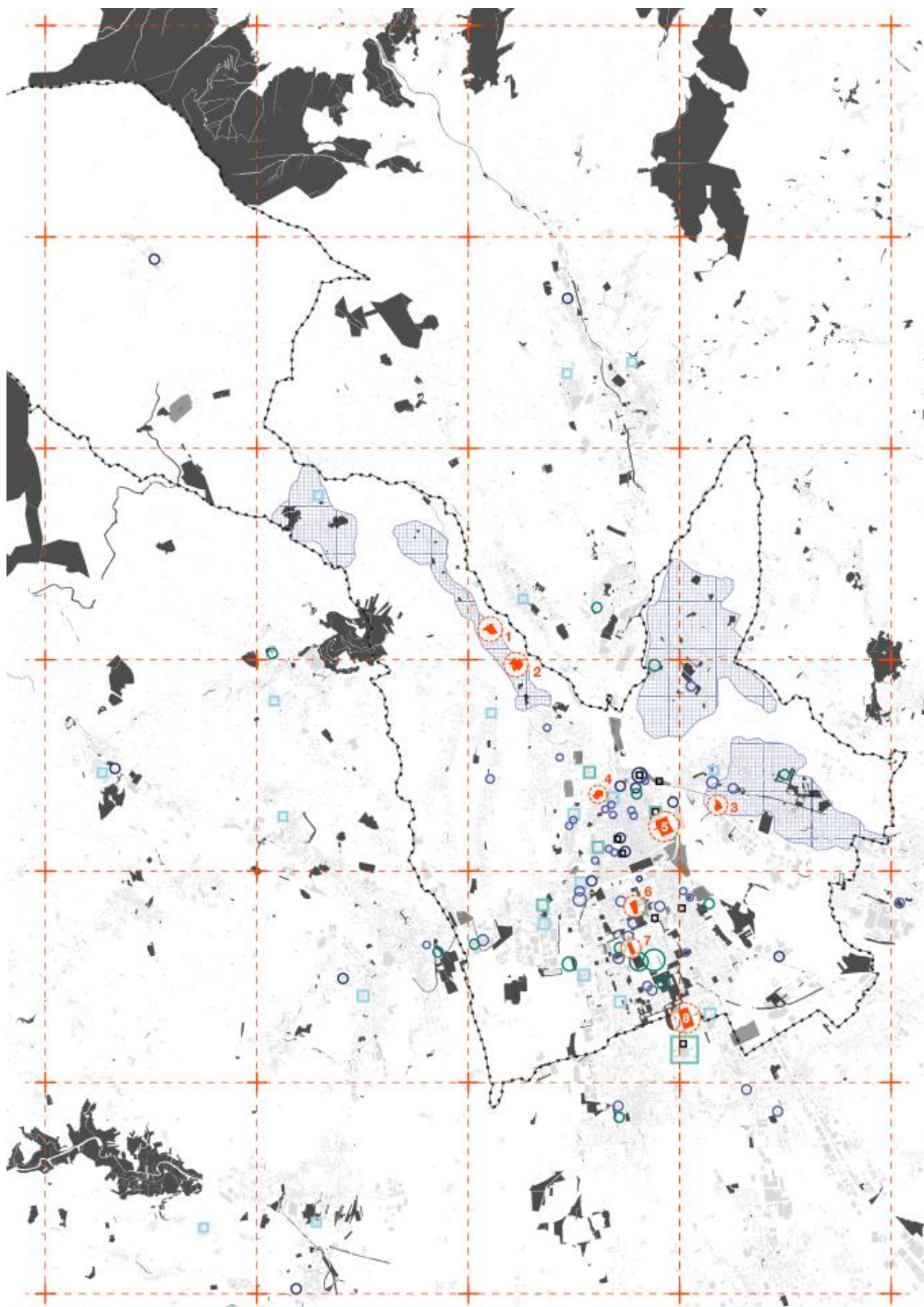
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This thesis aims to advance the belief that the city can be considered a renewable resource. This is achieved by analysing cities' urban dimensions and more specifically the role of urbanism in relation to sustainable development. Throughout this thesis, urban dimension is understood as a space inherited from the stratification of previous programmes, actions, practices and policies. Finally, this thesis uses the Municipality of Biella (Piedmont, Italy) as its main case study.

The idea that the city can potentially be a renewable resource is a radical hypothesis that, in order to be illustrated, needs to be compared to the current condition of cities, territories and landscapes. Yet, for it to occur, such a belief requires a paradigm shift. This distances itself from past mainstream policies (i.e. unconditional subordination to land consumption and the impoverishment of the soil, cities, environment) based on models striving for unlimited growth.

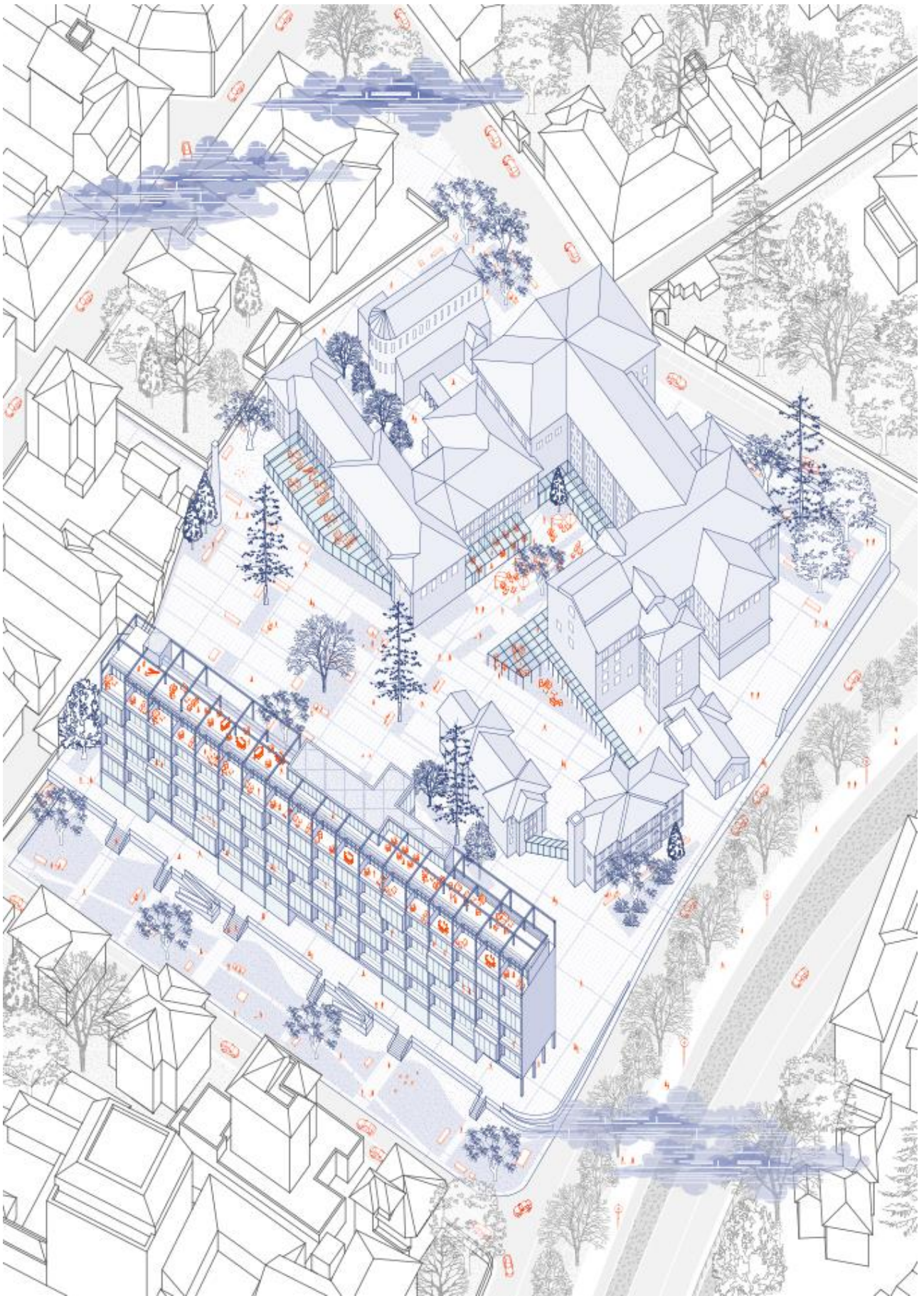
While in recent years the slow yet deep transition to sustainable energy sources functioned as a catalyst for environmental and socio-economic changes in the context of urban spaces, soil consumption does not seem to be stopping. However, this condition seems to be able to find a solution in the context of a paradigm that re-examines the city and as a potential resource able to rewrite itself, thus a renewable resource. Consequently, this research refocuses the importance of physical space's value, hence the role of urban project, as a tool for knowledge and transformation. This exploration considers the potential of rewriting through the study of three strategies: regeneration, redevelopment and urban retrofit. With these premises, the thesis studies and analyses the municipality of Biella's territory from a morphological and structural point of view. Additionally, a transformative project focused on strategic modifications designed for Biella (an intermediate city) can highlight the territory's potential and opportunities. Essential points for the thesis and the project's development have been the identification and the analysis of the regulatory-urban instruments that the Municipality of Biella is provided with. The exploration of these Plans and Regulations has emphasised a series of issues related to the city's current environmental sustainability and the sustainability and resilience of a future development plan. Finally, these issues have led to the identification of five project themes (landscape, flows, fixed capital, city of care, public space), which subsequently have been developed into five scenarios for the City of Biella, thought as a renewable resource. The five scenarios correspond to five maps that are proposed as "schede norma", or project cards that have the capacity to regulate the territory.











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